

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 4 — CHART INFORMATION

SECTOR 4

NOVAYA ZEMLYA AND ZEMLYA FRANTSA-IOSIFA

Plan.—This sector describes the coasts of Novaya Zemlya and the Zemlya Frantsa-Iosifa island group. The descriptive sequence is W from the SE extremity of Novaya Zemlya and N on the W and E coasts. The Zemlya Frantsa-Iosifa island group is described in a W, S, N, and E order.

General Remarks

4.1 Novaya Zemlya consists of two islands separated by Proliv Matochkin Shar, a narrow and navigable strait, which is 55 miles long. From Proliv Karskiye Vorota (70°30'N., 58°00'E.), the S island trends successively NW, N, and NNE in a curve for about 200 miles to Proliv Matochkin Shar. The N island then trends in a general NE direction for 310 miles to Mys Zhelaniya, its NE extremity.

The S island of Novaya Zemlya consists of a level plain which, except on its SE side, is bordered by hills and mountains. The elevation of the land gradually increases to the N from Proliv Karskiye Vorota toward Proliv Matochkin Shar. In the vicinity of the strait, several mountains attain heights of about 1,050m. To the N of Proliv Matochkin Shar, the mountains gradually decrease in height and the NE part of the N island is comparatively low. There are deep valleys in many places on both islands.

The N island is mostly covered by an icecap. Glaciers descend to the sea on both sides of the island to the N of 74°N. In the NE part of this island, no glaciers reach the coast. Valley glaciers, which do not come down to the sea level, are found in the vicinity of Proliv Matochkin Shar. Several sheltered anchorages lie in the coastal indentations of Novaya Zemlya, most being along the S and W coasts. Several small settlements, trading posts, and polar stations are situated on the coasts of both islands.

Ice.—During the navigation season (June to October), if there is ice in Proliv Karskiye Vorota, vessels at anchor along the S coast of Novaya Zemlya may be beset by it, particularly with N and E winds. Frequently, and particularly at the beginning of the navigation season, a quantity of Kara Sea ice enters the Barents sea through Proliv Karskiye Vorota and becomes scattered, part of it passing along the coast of Novaya Zemlya for a considerable distance.

By the middle of June, the Barents Sea is navigable to 75°N, as far E as 50°E. Towards the end of June, the W coast of Novaya Zemlya begins to clear and is ice-free usually early in July.

Between Mys Pal'tsev (73°59'N., 58°14'E.) and Ostrov Pakhtusova, 30 miles NE, the coast on the E side of the N island becomes clear of ice during late July or early August. This area usually freezes over about the middle of October. In the various inlets, where there are glaciers, ice may be encountered at any time in the form of small icebergs which drift out to sea under the action of the wind. These local icebergs may rise up to 12m above the water level.

In certain weather conditions, ice may accumulate on the hulls and superstructures of vessels. This event may result in a

dangerous situation. A combination of strong winds, precipitation, and spray in sub-zero temperatures can result in ice accumulation. It can also form when fog is combined with freezing conditions or in freezing drizzle or rain. The conditions are likely to occur at any time between September and June. If vessels are unable to reach shelter or warmer conditions, they should head into the wind and sea at the slowest speed possible. If weather conditions do not allow the former action, vessels should put the wind astern and proceed at the least speed necessary for maintaining steerage.

Winds—Weather.—The general effect of topography on winds is the same in this area as in other parts of the world. Most coastal onshore or offshore winds follow narrow channels and valleys.

The most important local wind in this vicinity is the "bora" of Novaya Zemlya which is also known as "vstok," "stok," or "yuzhaki." The frequency of these very strong squally, offshore winds may vary considerably from year to year. As many as 140 to 160 days with these strong gale winds was reported at Malyy Karmakuly. Some coastal areas of the Zemlya Frantsa-Iosifa island group experience these violent winds, but little is known of their characteristics except that they are usually of a short duration.

The bora begins when a flow of cold air approaching from the windward side of a mountain range accumulates and then spills over as an atmospheric flood down the leeward side. The outstanding characteristic of the boras in the area of Novaya Zemlya is that they occur with no pronounced regularity on either the W or E coast, but depend upon the track of the low-pressure system involved and the associated direction of flow of the colder air.

Over the years, a slightly larger number of boras probably occur along the W coast during the winter season, but no such predominance is apparent in the other seasons. Of the boras occurring at the W side of Novaya Zemlya, those along the shore of the N island are generally not quite as strong as those along the S island.

The weather maps prior to a W coast bora usually show a high-pressure center to the E and a low approaching Novaya Zemlya from the Barents Sea. With the E coast bora, there is usually a low moving across the Kara Sea and a high centered over Norway. Boras occur most often from January to April and least often from June to September. The average duration is 24 hours, but extremely squally conditions may last up to 5 days. Gusts of 60 to 80 knots are fairly common. Proliv Matochkin Shar once recorded an average wind velocity of 91 knots for 1 hour. Individual gusts reaching at least 115 knots have been observed at coastal locations along Novaya Zemlya. Boras generally do not extend very far seaward, probably not more than 11 miles.

The arrival of a bora may be predicted fairly well by the following local indications:

1. An offshore wind begins to blow gustily about 12 hours in advance.

2. Cumulus clouds form over the coastal mountains and ravines 6 to 10 hours in advance, but otherwise there tends to be a decrease in cloudiness.

3. The relative humidity begins to fall very noticeably 6 to 10 hours in advance and reaches a minimum 2 to 4 hours in advance.

4. The cloudiness and relative humidity increase 2 to 4 hours in advance until the onset of the bora. In addition, the wind freshens.

Combined occurrence of these local conditions is usually required for a reliable prediction. When such a combination does occur, vessels should take all necessary precautions.

Caution.—It should be noted that only the W coast of Novaya Zemlya, near and chiefly S of Proliv Matochkin Shar, has been triangulated; the remainder, including the whole of the E coast, is from very rough running surveys, made under great difficulties. Local knowledge is required.

Several restricted areas exist in the vicinity of Novaya Zemlya.

Due to the lack of reliable information, radio navigational aids on the Russian Arctic Coast and adjacent islands, from the E side of Novaya Zemlya to the Bering Strait, are being omitted from charts and publications. Therefore, the information concerning radiobeacons included in the following text is provided strictly as a general guide based on past information.

Abnormal magnetic variation has been reported by vessels navigating in the vicinity of the W coast of Novaya Zemlya, between Ostrova Barentsa and Mys Karlsena. Departures from the normal variation of up to 14° have been observed.

South Coast of Novaya Zemlya

4.2 Mys Men'shikova (70°42'N., 57°36'E.), the SE extremity of Novaya Zemlya, is a narrow, bluff projection which rises to heights of 12 to 15m. From a distance, this cape appears dark-colored and somewhat higher than the coast on either side. A light is shown from a conspicuous structure standing on the cape. A radiobeacon is situated at the light.

Vessels should give the cape a wide berth as breakers have been observed in the vicinity and shoal depths of 10m and 4.2m have been reported to lie about 1 mile SE and 1 mile E, respectively, of it.

Ostrov Izbnoy (70°36'N., 57°28'E.), dark and 12m high, lies 6.5 miles SSW of Mys Men'shikova. The coast between is indented by several bays and coves.

A bay indents the coast between Mys Men'shikova and Mys Zhandr, 2 miles SW, and affords protection from NW winds. However, the NE part of this bay is the only area which has been examined.

Ostrova Krapivina (70°37'N., 57°28'E.), a group of islets, lies near the shore, about 0.8 mile N of Ostrov Izbnoy. The islets are conspicuous because of their dark color which contrasts with the yellowish background of the coast. Foul ground lies between the islets and the coast and the SE side of the group is fronted by a reef.

Ostrov Kazobin (70°33'N., 57°29'E.), an islet with gently sloping sides, lies 2.5 miles S of Ostrov Izbnoy. Numerous dangers are reported to lie between this islet and Ostrov Izbnoy. Foul ground extends up to about 2 miles NE, ESE, and

E from the islet and a rock, awash, lies on its E edge. A barren, steep-sided, and flat-topped islet lies on the SE edge of the foul ground. A shoal patch, with a depth of 4.6m, lies about 3 miles E of Ostrov Kazobin and a shoal, with a depth of 11m, lies 1.5 miles SSE of it.

4.3 Guba Loginova (70°35'N., 57°26'E.) extends 15 miles WNW from its entrance which lies between the SE extremities of Poluostrov Piritovyy and a narrow peninsula, 3.5 miles NE. Poluostrov Piritovyy lies on the SW side of this bay. This peninsula rises to a height of 61m in its SE part, but becomes lower to the NW. A prominent hill, 49m high, stands 5.5 miles NW of the SW entrance point.

Mys Ozerney (70°33'N., 57°19'E.) is located 0.8 mile N of the SE extremity of Poluostrov Piritovyy. The buildings of a polar station stand on this cape. A stone beacon, 4.8m high and surmounted by a cask on a pole, is situated close N of these buildings. A rocky shelf, with a depth of 4.3m at its outer edge, extends about 0.2 mile seaward from the cape.

The NE shore of the bay is 9m high and considerably indented. Both shores are, for the most part, bold.

Ostrova Rukhlova (70°33'N., 57°29'E.), consisting of two islets connected by a drying flat, lies 1.5 miles NE of Mys Ozerney. Ostrov Ragozina and Ostrov Lot-Ryba lie 0.5 mile and 2 miles, respectively, WNW of the inner islet. Several other islets also lie in the upper part of the bay.

Anchorage can be obtained in several places within the bay, but local knowledge is required. The bottom is formed by mud or clay and provides good holding ground. A recommended anchorage, protected from all except SE winds, lies in a depth of 16m about 0.3 mile SW of the middle of the inner islet of Ostrova Rukhlova. Vessels with moderate drafts can anchor in the N part of a cove which lies on the S side of Mys Ozerney.

Caution.—Vessels approaching Guba Loginova should pass midway between Ostrov Bol'shoy Loginov and Ostrov Kazobin. Vessels should not attempt to enter the bay by passing between Ostrov Kazobin and the NE entrance point.

4.4 Ostrov Bol'shoy Loginov (70°31'N., 57°26'E.), lying 1.8 miles S of Ostrov Kazobin, is high, bold, and consists of three parts. The E and W parts are joined by a low and narrow isthmus. The N part is connected to the W part by another low isthmus on which there is a pond. A conspicuous light-colored patch is located on the cliffs at the NW extremity of the island. A main light is shown from a structure, 17m high, standing on the E part of the island.

The E shore of the island is indented by several coves that are available to small craft with local knowledge. A group of islets lies close off the SE end of the island and the easternmost is high, steep, and flat-topped. A shoal, with a least depth of 2.1m, lies about 2 miles ESE of the E extremity of Ostrov Bol'shoy Loginov and breaks during heavy weather. A rock, awash, lies about 0.8 mile ESE of the E extremity of the island. Vessels should use caution in the vicinity of these dangers.

Proliv Nikol'skiy Shar (70°32'N., 57°00'E.) lies between Kusova Zemlya, on the SW side, and Poluostrov Piritovyy, on the NE side. This strait is 10 miles long and has a least width of about 0.5 mile. It is encumbered by several islets and the shores are bold. The NE shore is 50 to 60m high in its SE part and 20 to 30m high in its NE part.

Caution.—Proliv Nikol'skiy Shar has been only superficially examined and should not be entered by vessels without local knowledge.

4.5 Ostrov Sredniy (70°32'N., 57°14'E.) lies near the middle of the SE entrance to Proliv Nikol'skiy Shar. A small cove indents the E side of this island and a beacon stands near the NW end. Several islets lie within 1.5 miles of the island.

Bukhta Severnaya (70°32'N., 57°18'E.), entered between Ostrov Bol'shoy Loginov and Ostrov Sredniy, is sheltered from all directions. The outer part of this cove has depths of 20 to 50m and the inner part has a depth of 10m.

Mys Kusov Nos (70°28'N., 57°07'E.), on the Novaya Zemlya side of the entrance to Proliv Karskiye Vorota, is located 29 miles WNW of Mys Rogatyy. This point forms the S extremity of Kusova Zemlya and is surmounted by a cross.

A shallow bank has been reported to extend SE from the point. A shoal patch, with a depth of 5.8m, lies about 1.5 miles SE of the point. A rock, awash, lies 2.8 miles ENE of the point and a shoal, with a depth of 4.6m, lies about 1 mile SE of it.

A light is shown from a pyramid structure, 16m high, standing on an islet that lies close S of the point.

Caution.—The area in the vicinity of Mys Kusov Nos is unexamined and vessels should keep well clear of this point.

Guba Tarkhova (70°30'N., 57°06'E.) is entered between Mys Kusov Nos and Mys Yeleny, 1.5 miles ENE. This bay is sheltered from all winds except those from S and SE. Its shores are grayish-colored and steep near the entrance, but have a more gradual slope at the head. An isolated shoal, with a depth of 11.8m, lies in the middle of the bay and the head shallow.

A bank, with depths of less than 9m, extends about 1.2 miles SE from Mys Yeleny, the N entrance point.

Banka Persey (70°25'N., 57°39'E.), consisting of mud-covered rock, lies between 4 and 11 miles ESE of Mys Kusov Nos. Its central portion is awash in several places and breakers appear with only a slight swell. Several shoal patches lie on this bank and have depths of 2.7 to 8.8m. Due to the strong currents setting across this bank and the irregularity of the surrounding depths, it should be given a wide berth. The passage leading between the bank and Ostrov Malyy Loginov is also not recommended.

A shoal, with a depth of 5.8m, lies S of the W part of Banka Persey, 6.8 miles SE of Mys Kusov Nos. A detached rock, with a depth of less than 2m, lies at the E extremity of the bank, about 11 miles ESE of Mys Kusov Nos.

4.6 Ostrov Malyy Loginov (70°29'N., 51°19'E.) lies 1.5 miles ESE of the SE point of Kusova Zemlya. Although comparatively high, this island is not easily identified from S. Two islets lie close off its SE end. An area of foul ground, with rocks awash and depths of 3 to 7m, extends up to about 2.8 miles SW and 1.8 miles E from the SE end of the island.

Banka Prokof'eva, a narrow ridge of rock covered with a thin layer of mud, extends about 6 miles. Its NW and SE ends lie about 7 miles SW and 8.8 miles S, respectively, of Kusov Nos light and it is steep-to. The bank has depths of less than 11m, but the shoalest part with a depth of 1.9m, lies about midway between its extremities.

4.7 The SW side of Kusova Zemlya trends NW for 9.5 miles from Mys Kusov Nos to the NW extremity of the island. Several islets lie within 2 miles of Mys Kusov Nos.

A bay is entered between a point, located 6.5 miles NW of Mys Kusov Nos, and another point, 1.8 miles NW. It affords anchorage to vessels with local knowledge, but three islets lie in the entrance and an unexamined shoal patch, which breaks occasionally, lies about 0.5 mile SW of the NW entrance point.

Between Mys Kusov Nos and Mys Kabaniy Nos, 22 miles WNW, the coast is deeply indented and fronted by numerous islands.

Ostrova Pyniny (70°27'N., 56°34'E.), consisting of four islets, lies 11 miles W of the S extremity of Kusova Zemlya. The islets are low, flat, and steep-to on their SW sides. A cross stands on the E end of the largest islet.

Ostrov Pukhovyy (70°30'N., 56°25'E.) lies with its S extremity located 2.6 miles NW of the W extremity of the largest islet of Ostrova Pyniny. This island is 25 to 30m high and steep except on its NE side. Its shores are fronted by several above-water rocks and sunken reefs.

Ostrov Malyy Oleniy (70°32'N., 56°41'E.), lying 3 miles E of Ostrov Pukhovyy, consists of two parts connected by a low and narrow isthmus. This island is composed of volcanic rock and is 40m high. Several bays indent the SE side of the island. The largest of these bays lies E of the isthmus and has an islet in its outer part. The entrance points of these bays are fringed by numerous rocks.

An islet, with a rock awash 0.2 mile E of it, lies 1 mile N of the NE part of the island. A shoal patch, with a depth of 17.7m, lies about 2.5 miles SE of the S extremity of the island.

Ostrov Britvin (70°30'N., 56°19'E.) lies 1 mile W of the NW extremity of Ostrov Pukhovyy. This island is low in the middle, becoming slightly higher towards its NE extremity. Its NW part is 9 to 12m high and steep. Several small islets and rocks, mostly above-water, lie off the SE side of the island. The outermost of these dangers, a rock awash, lies 1 mile SE of the island.

It is reported that fishermen and hunters frequent this island during most of the year. A supply of provisions for a few persons is maintained in a hut on the E side of the island. A beacon, 18m high, stands on a small hill in the NW part of the island.

A shoal, with a depth of 3m, is reported to lie about 5 miles ESE of the light.

Ostrov Bratkov lies 2 miles SSW of the S extremity of Ostrov Britvin. A rocky shoal patch, with a depth of 12.8m, is reported to lie about 2.2 miles SE of this island, but the area has not been thoroughly examined.

4.8 Ostrov Ozerney (70°33'N., 56°17'E.), 18 to 22m high, lies 2.5 miles N of Ostrov Britvin. The W side of this island rises steeply, but the E side has a more gradual slope. The island is steep-to on the N and NE sides, but several rocks, above-water and awash, fringe its other shores.

Breakers have been reported to occur about 0.5 mile SW of the SW extremity of the island. A shoal patch, with a depth of 1.9m, has been reported to lie about 0.8 mile SSE of the island. Two shoal patches, with depths of 4 and 9.2m, have been reported to lie about 0.9 mile SW and about 1 mile W, respectively, of the island.

Mys Kabaniy Nos (70°34'N., 56°02'E.), the SE extremity of a dark-colored peninsula, is located 6.3 miles WNW of the NW extremity of Ostrov Britvin and fronted by an above-water rock on its S side. A small log house stands on this point.

The depths in the vicinity of the point are very irregular and a shelf, with depths of less than 11m, extends about 2 miles SSE from it. Vessels should not approach within 2.5 miles S or SE of this point.

A bay lies between Mys Kabaniy Nos and a point, 1.5 miles N. It has not been examined and should not be entered without local knowledge.

Guba Sakhanikha (70°36'N., 55°12'E.), a large bay, is entered between Mys Kabaniy Nos and Mys Sakhanin, 17 miles W. It is encumbered by several islands and dangers and the shores are much indented. The head of the bay is divided into two parts by Poluostrov Rakhmanov (70°38'N., 55°38'E.), a peninsula, which projects from the NW side.

Ostrova Yuzhnyy Gorbovy (70°32'N., 55°42'E.) consists of a group of seven islands, three of which are very small. Ostrov Gorbovy, the southernmost and largest island of this group, lies with its S end located 6.8 miles W of Mys Kabaniy Nos. It is steep-sided and comparatively high. A group of above-water rocks lies centered 0.5 mile SSE of the S end of this island. Several shoal patches, with depths of 3m, lie centered about 0.4 mile N of the northernmost island of the group and an isolated shoal, with a depth of 3.4m, lies about 0.2 mile NE of them.

A detached shoal, with a depth of 12.8m, lies in the entrance to Guba Sakhanikha, about 4 miles SSW of Ostrov Gorbovy.

A group, consisting of three small islets, lies 2 miles NW of Ostrova Yuzhnyy Gorbovy. A ridge of above-water rocks projects about 0.2 mile SE from the southeasternmost islet of this group. Shoal patches, with depths of 2.4, 10.4, and 10.4m, lie about 0.5 mile NE, 0.5 mile SW, and 1 mile NNE, respectively, of the N end of the largest islet of this group.

4.9 Ostrov Bol'shoy Sakhaniny (70°29'N., 55°21'E.) lies 4.5 miles SE of Mys Sakhanin and is the southernmost islet in the approach to Guba Sakhanikha. A prominent beacon, 11m high, stands on this islet.

Detached shoals, with depths of 6.4 and 12.8m, lie about 4 miles SE and 6 miles E, respectively, of the beacon. An extensive shoal, with depths of less than 5m, extends 5 miles NNE from Ostrov Bol'shoy Sakhaniny and is about 2 miles wide at its N end. Ostrov Malyy Sakhaniny lies on the N part of this extensive shoal, about 3.5 miles NNE of the beacon. From the E, this islet appears to be divided into two parts by a gorge. Ostrov Ploskiy, a low and flat islet, lies 2 miles N of Ostrov Malyy Sakhaniny.

A submarine valley, with depths up to 180m, lies from 10 to 15 miles offshore between the meridians of Ostrova Yuzhnyy Gorbovy, located 10 miles E of Mys Sakhanin, and Mys Chernyy. In the vicinity of Mys Sakhanin, this valley widens and lies closer to the coast. Vessels approaching the coast in thick weather can use the depths of the valley to estimate their positions.

Mys Sakhanin (70°33'N., 55°11'E.), a steep headland, is 9 to 12m high. It is composed of three rocky projections which are fringed by above and below-water rocks. An islet, with a drying rock 0.2 mile SE of it, lies 0.5 mile E of the easternmost projection. Another islet, fronted by an above-water rock, lies

0.4 mile SE of the middle projection. A conspicuous white log house is reported to stand on the headland.

Mys Olonkina (70°38'N., 54°53'E.), the W extremity of a steep promontory, is located 8.5 miles NW of Mys Sakhanin and surmounted by several crosses. The coast between is bluff and little indented. A narrow and shallow channel lies close NE of this point and leads to a lagoon.

4.10 Guba Chernaya (70°38'N., 54°49'E.), a large bay, is entered between a small peninsula, located 1.2 miles W of Mys Olonkina, and Mys Vkhodnoy, 0.6 mile WSW. A monument, in the shape of a cross, stands on the peninsula and a light is shown from Mys Vkhodnoy. The bay trends NW for about 10 miles from its entrance.

Immediately within the entrance, the bay is 0.8 mile wide and its shores are 24 to 31m high. About 2 miles from the entrance, the bay gradually widens and becomes an extensive basin with indented shores. There are depths of 35 to 54m in the approach and entrance channel. The bottom consists of mud and stones at the entrance and mud with some patches of red shells in the inner part.

A reef, with depths of less than 1.8m, is reported to lie about 2.8 miles S of Mys Vkhodnoy, but has not been fully examined.

Ostrov Roze (70°38'N., 54°52'E.), a steep-sided islet, lies 0.4 mile E of the peninsula, on the E side of the entrance to the bay. A bank, with depths of less than 5m, extends about 0.2 mile S from this islet. Shoal patches, with depths of 7.9 and 10m, lie about 0.6 mile SSE and 0.6 mile SSW, respectively, of the E end of the islet.

A sunken rock lies near the S side of the peninsula and a spit, with depths of 6.4 to 10m, extends about 0.4 mile NW from its NW extremity.

Ostrov Chernyy, located 0.3 mile S of Mys Vkhodnoy, is a very small islet. It lies on a shoal, with depths of less than 5m, which extends about 0.8 mile S, 0.4 mile SE, and 0.3 mile E from the point. A reef, with a least depth of 0.9m at its SE end, lies between 0.5 and 1 mile SE of Mys Vkhodnoy.

The NE side of Guba Chernaya is indented by a cove which is entered between the extremity of a small peninsula, located 6 miles NNW of the entrance to the bay, and a point, 1.2 miles NW. A cairn stands on the SE entrance point of this cove.

The SW side of Guba Chernaya is formed by a peninsula which extends about 9 miles SE from the coast and terminates in Mys Vkhodnoy. This side of the bay is indented by three coves.

Guba Baklyshi, the southeasternmost cove on the SW side of Guba Chernaya, lies 3 miles NW of Mys Vkhodnoy. Its N entrance point is fronted by above-water rocks. A narrow channel leads from the head of the cove to a lagoon. This cove has not been fully examined and local knowledge is required.

Guba Voronina lies in the NW part of Guba Chernaya, 8 miles NW of Mys Vkhodnoy. This cove consists of two parts connected by a narrow and shallow passage. An islet lies in the outer part of the cove and an above-water rock lies on a shallow shoal close N of the E entrance point. The entrance to the cove is about 180m wide and the fairway channel, which lies near to the E entrance point, has a depth of 3.9m. There are depths of 8 to 12m within the entrance, but the inner part has depths of 3 to 4m and is accessible only to small craft. Vessels

with local knowledge can anchor in depths up to 11m about 0.2 mile W of the above-water rock lying N of the E entrance point.

4.11 Ostrov Kaltak (70°44'N., 54°31'E.), an islet, lies 0.8 mile ENE of the E entrance point of Guba Voronina and foul ground extends about 0.2 mile W from it. A shoal patch, with a depth of 5.7m, lies about 0.2 mile N of this islet.

Guba Domashnyaya (70°43'N., 54°22'E.) is entered between the W entrance point of Guba Voronina and a point, about 200m NNW. Within its entrance this cove widens to form a basin which has depths of 5.5 to 9.4m in its central part. Krasino, a trading post and settlement for hunters and fishermen, is situated on the N shore of the cove.

Small vessels can anchor in a depth of 11m, mud, about 0.3 mile S of the trading post. Large vessels cannot enter the cove due to the narrowness of the channel. Such vessels can anchor in depths of 13 to 29m to the W of Ostrov Kaltak, but local knowledge is required.

4.12 Mys Bol'shoy Kushnoy (70°40'N., 54°31'E.) is located 5.8 miles WNW of Mys Vkhodnoy. The coast between is fronted by several above and below-water rocks. Shallow rocks lie about 0.8 mile and 2.2 miles WSW of Mys Vkhodnoy. An above-water rock lies about 1.5 miles W of the same point.

Guba Shirochika (70°43'N., 54°02'E.) lies between Mys Bol'shoy Kushnoy and Mys Perevesinskiy, 6.5 miles WNW. A gap in the generally steep shore of this bay appears at its head and is conspicuous from seaward. Coves indent the SE and NW ends of the bay. Several islets and above-water rocks encumber the SE cove.

Ostrov Rakovaya Ludka, lying 4.5 miles SW of Mys Perevesinskiy, is a low, flat, and inconspicuous islet. An above-water rock and several below-water rocks lie close W of it. Breakers have been reported to occur about 1.5 miles E of this islet.

Between Mys Perevesinskiy and Mys Bezymyanny, 11.8 miles WNW, the coast appears uniform and steep from seaward. However, this stretch of shore is indented by three bays. Guba Koslova, the southernmost bay, is entered between Mys Perevesinskiy and a point, 2.5 miles NW. The W part of its entrance is encumbered by several above-water rocks and its head is separated from a lake by a low ridge. Guba Rakovaya is entered NW of Mys Rakovyy and has not been fully examined. A rocky ledge, partly above-water, projects about 0.5 mile SE from a point on the W side of the bay, located 0.8 mile N of its W entrance point.

A point, located 2.5 miles WNW of the W entrance point of Guba Rakovaya, is fronted by foul ground which extends up to about 1 mile S and 1 mile W. A conspicuous white patch appears on the coast near this point.

Guba Stroganova is entered between Mys Bezymyanny and Mys Muchnoy (70°47'N., 53°54'E.), 2.2 miles W, and has not been fully examined. A prominent cairn stands on the former point. Two small, flat islets lie close S of the latter point and a rock, awash, lies about 0.8 mile E of them. A peninsula divides the head of this bay into two parts. A rock, which breaks, and an above-water rock lie about 0.2 mile SE and 0.2 mile S, respectively, of the SE extremity of this peninsula.

West Coast of Novaya Zemlya

4.13 Mys Chernyy (70°52'N., 53°21'E.), located 6.5 miles NW of Mys Muchnoy, is the NW extremity of a rocky peninsula which rises from the sea to a height of 34m. This point appears brownish from a distance, but gray on closer approach. Savina Kovriga, the northwesternmost and higher of two hills standing on this peninsula, forms a conspicuous landmark and first appears from a distance as an islet. A light is shown from a structure, 14m high, standing on this hill.

Rocks, which break, lie about 0.2 mile and 1.5 miles NNW of the point. A shoal patch, with a depth of 4.8m, lies about 2.5 miles W of the point. The area in the vicinity of Mys Chernyy has not been fully surveyed and vessels should not approach the point within 3 miles.

Between Mys Chernyy and Mys Yuzhnyy Gusinyy Nos, 46 miles NW, there is an extensive bay which is mostly occupied by Ostrov Mezhdusharskiy, a large island.

Proliv Kostin Shar (70°55'N., 53°17'E.) separates this large island from Novaya Zemlya and its E shore is indented by many bights and inlets. This strait, which is encumbered by numerous islands and dangers, is 55 miles long and has not been completely surveyed. Its W shore has comparatively few indentations.

In the S part of the strait, the coast of Novaya Zemlya is rather low, but it increases in height farther to the N. Several hills rising near the NE side of the strait are visible from seaward and appear as a continuous ridge with several low peaks.

Between Mys Yuzhnyy Gusinyy Nos and Mys Severnyy Gusinyy Nos, 42 miles N, the coast is comparatively low and has no large indentations. Low hills rise near the shore and somewhat higher hills stand 4 to 6 miles inland. This stretch of coast forms the W side of Gusinaya Zemlya, a broad peninsula, which extends between the N part of Proliv Kostin Shar and Zaliv Mollera. A light is shown from a structure, 18m high, standing on the S part of Mys Severnyy Gusinyy Nos. A radar reflector is situated at the light.

The depths in the approaches to Proliv Kostin Shar and off the SW side of Ostrov Mezhdusharskiy (71°10'N., 53°00'E.) are irregular. An area extending between 1.5 and 6.5 miles from the latter island has not been fully examined. Drying rocks lie (position approximate) about 11.8 and 12.2 miles WSW of Mys Severnyy Gusinyy Nos.

A reef, above-water in places, extends 2.2 miles W from a point located on the shore, 7.5 miles SW of Mys Severnyy Gusinyy Nos. A shoal, with a depth of 17.8m, lies about 6 miles NW of this point. The area in the vicinity of this point has not been fully examined and vessels should not approach the coast within 8 miles.

4.14 Ostrov Mezhdusharskiy (71°10'N., 53°00'E.) has a number of lagoons and steep, projecting dark headlands located along its S coast. Obmannyy Shar, a large lagoon, lies 5 miles N of the S end of the island and is separated from the Barents Sea and Proliv Kostin Shar by low, narrow strips of shingle. The island broadens to the N of this lagoon, its N part having a width of nearly 14 miles. Numerous lakes lie near the coasts of the island and there are marshes farther inland.

Caution.—In thick weather, the low land on the E and W sides of Obmannyy Shar may not be visible from seaward and

the lagoon may be mistaken for the S entrance of Proliv Kostin Shar. In addition, the high land rising S of the lagoon somewhat resembles Savina Kovriga. Consequently, vessels bound for the S entrance of Proliv Kostin Shar should use caution in this vicinity.

Mys Kostin Nos (70°56'N., 53°03'E.), the S extremity of Ostrov Mezhdusharskiy, is located 7.2 miles NW of Mys Chernyy. This point is formed by a bold and dark-colored headland, 11m high.

Breakers have been reported to occur in the vicinity of this headland and vessels should not approach within 2.5 miles of it.

Between Mys Kostin Nos and the S end of the shingle ridge forming the W side of Obmannyy Shar, 5.5 miles N, the W coast of the island is bold and 7 to 15m high. Its appearance is uniform, being dark brown in color with black cliffs in places. Snow sometimes lies throughout the summer at the foot of these cliffs.

A beacon, 9m high, stands on one of three conspicuous, conical hillocks rising 3.5 miles N of Mys Kostin Nos. A conspicuous log house is situated on the neck forming the W side of Obmannyy Shar. The coast extending N of this neck is steep and higher. A prominent cairn stands 17 miles NNW of Mys Kostin Nos.

Mys Shadrovskiy (71°19'N., 52°16'E.), the NW extremity of Ostrov Mezhdusharskiy, is dark-colored and eroded. A beacon, 8m high, stands on this point.

4.15 Proliv Kostin Shar (70°55'N., 53°17'E.) is wide and little encumbered by islands or dangers for several miles within each entrance. However, the central part of the strait is obstructed by numerous islands, rocks, and shoals. Due to the intricacy of the channels and incomplete surveys, local knowledge is required for navigating in this area. With the exception of a few unlighted beacons, the only navigational aids are situated at the entrances of the strait and in the NW part.

One of the principal settlements in Novaya Zemlya is situated on the E shore of Guba Belush'ya (71°28'N., 52°21'E.), a bay, which is entered on the N side of the strait.

The fairway channel within the strait has depths of 11 to 31m in its SE part and 22 to 53m in its NW part.

The S entrance of the strait lies between Mys Chernyy (70°52'N., 53°21'E.) and Mys Kostin Nos. Inside this entrance, the strait widens to form an extensive basin which affords anchorage. The bottom is formed of mud with good holding ground. A swell enters this basin during SW winds, but it does not reach the N part.

Ostrov Bashmachnyy (70°54'N., 53°31'E.), a steep-sided and narrow island, lies close off the S side of the strait and is joined by a narrow, drying spit to a point located 4.5 miles ENE of Mys Chernyy. Mys Bashmachnyy, the NW extremity of the island, is steep-to and surmounted by a beacon, 7m high. The section of the strait lying SW of this island has not been fully examined.

Guba Bashmachnaya (70°53'N., 53°40'E.), a narrow inlet, is entered between two points which lie 5.5 and 6.5 miles E of Mys Chernyy. A conspicuous cairn stands on the W entrance point. The middle of the fairway leading from the entrance to the head has depths of 11 to 17m.

4.16 Mys Tudera (71°03'N., 53°32'E.), a bluff headland, is located on the E side of the strait, 12 miles NNE of Mys Chernyy. This headland is fringed by below-water rocks and Ostrov Kazarinov, a small islet, lies close NW of it. Ostrov Zhemchug, another small islet, lies 2.8 miles S of the point. A shoal of unknown extent lies between this islet and Mys Bashmachnyy. It has a least depth of 6.4m and lies centered 1.5 miles SSW of the islet.

Mys Palets (71°05'N., 52°31'E.), the NW extremity of Poluostrov Palets, is located 1.8 miles N of Mys Tudera and is steep-to. The coast between forms a bight in which there are depths of 12 to 18m.

Ostrova Alebastrovyye (71°04'N., 53°25'E.), a group of three conspicuous white islands, lies W of Mys Tudera and Poluostrov Palets. The channel lying E of these islands is 1 mile to 1.8 miles wide and has depths of 7 to 10m in the fairway. The largest island of the group consists of two steep-sided parts connected by a low isthmus. Several above-water rocks, dangerous rocks, and shoals, with depths of less than 5m, lie within 3 miles of this group.

Mys Krestovyy (70°57'N., 53°11'E.), the E extremity of Ostrov Mezhdusharskiy, is located 2.5 miles ENE of Mys Kostin Nos. This point is dark-colored, precipitous, and surmounted by two crosses. Several above-water rocks, shallow rocks, and shoal patches, with depths of less than 5m, lie within 7 miles of the point.

The W side of the strait trends NW and NNW for about 5 miles from Mys Krestovyy to the S end of the shingle spit which forms the E side of Obmannyy Shar. This stretch of coast is shelving in the S part, becoming steep as it approaches Obmannyy Shar. The shingle spit extends N for about 2.5 miles to the edge of the narrow channel which leads to Obmannyy Shar. Between the N end of the shingle spit and Mys Kit, 5.5 miles NNE, a number of bluff points project from the coast.

Between Mys Krestovyy and Mys Klyuv, a bank, with depths of less than 18m, fronts the coast and extends up to 5 miles offshore.

4.17 Guba Propashchaya (71°07'N., 53°29'E.), a very indented bay, extends 15 miles NNE from Proliv Kostin Shar. Its entrance lies between Mys Palets and Mys Geologicheskiiy, 6.2 miles NNE. This bay is encumbered with many islets, above-water rocks, and dangers.

Ostrov Kruglyy (71°07'N., 53°28'E.), a hilly island, lies in the entrance to the bay. It is almost divided into two parts by Guba Glubokaya, which indents the NW side of the island between Mys Ostryy, the NW extremity, and Mys Vkhodnoy, the N extremity. The shore of this bay is low, but the other coasts of the island are steep. A hill, 55m high, rises in the SW part of the island and is surmounted by a beacon.

A shoal, with depths of 0.9 to 3.9m, lies about 2 miles NW of Mys Ostryy and a small islet lies on it. A shoal patch, with a depth of 7m, and another patch, with a depth of 8.8m, lie about 1.2 miles WSW and 2.5 miles WNW, respectively, of the same point.

The southernmost channel leading into Guba Propashchaya has a least depth of 7.3m and is entered between Poluostrov Palets and the SW side of Ostrov Kruglyy. It rounds the S end of the latter island and then trends NE into the bay. The least depth in the fairway lies between a sunken spit, which extends

about 200m S from the S extremity of Ostrov Kruglyy, and an above-water rock, which lies about 0.6 mile SE of the same point. Broken water appears over the spit and ripples have been observed even in calm weather.

On the S side of the channel, three coves lie between Poluostrov Palets and Mys Krutoy, the N extremity of a peninsula. The westernmost cove has depths of 8 to 12m in the outer part and 4.8m at the head. Its bottom consists of mud and stones. A spit extends N for about 0.3 mile from the head of this cove and another spit extends about 200m E from its W shore. The middle cove has depths of 23m in the outer part and 11m near the head. Its bottom consists of mud and stones. The easternmost cove has depths of 12 to 20m off the entrance and 10m in the entrance. Its bottom consists of mud in the outer part and rock in the inner part.

The SE part of Guba Propashchaya consists of an arm which extends SE for about 6 miles. It is entered between Mys Krutoy and a point 2.8 miles NE. An islet, surrounded by foul ground, lies 1.8 miles ESE of Mys Krutoy and a shoal, with a depth of 7.3m, lies 1.2 miles ESE of it. The arm has depths of 40m in the entrance and 10m near the head.

The northernmost channel leading into Guba Propashchaya is entered between Mys Geologicheskii (71°11'N., 53°26'E.) and Mys Vkhodnoy. It is 1.2 miles wide and leads SE along the NE side of Ostrov Kruglyy.

Poluostrov Mednyy projects 3.5 miles S from a point on the N shore of the bay located 3 miles E of Mys Geologicheskii. A bank, with depths of less than 10m, lies between Mys Geologicheskii and Poluostrov Mednyy. This bank extends 1.5 miles offshore and several islets lie on it. A shoal, with a depth of 4.8m, lies in the middle of the entrance to the channel, N of Mys Vkhodnoy. A shoal, with a depth of 7.3, and another shoal, with a depth of 8.8m, lie in the middle of the channel, about 1.5 miles ESE and 3.8 miles SE, respectively, of the same point.

The E part of Guba Propashchaya, which has several branches, is entered between the S extremity of Poluostrov Mednyy and the NE entrance point of the SE arm of the bay, 1.2 miles S. This part has very irregular depths which range from 6.7 to 104m.

4.18 The central part of Proliv Kostin Shar lies between Mys Geologicheskii and the SE entrance point of Guba Taynaya, 10.2 miles NNW. The only appreciable indentation of the coast along the E side of the strait is Guba Nekhvatoa (Bukhta Nekhvatov) which lies near the middle of this stretch. This cove consists of two parts connected by a narrow passage, 48m wide, and is accessible only to small craft with local knowledge. An islet lies in the outer part of the cove and several streams flow into the inner part. Several log houses are reported to stand on both sides of the cove and are prominent from the outer entrance.

Ostrov Timofeyeva (Ostrov Dolgi) (71°31'N., 53°24'E.) lies with its SE extremity located 3.2 miles NW of Mys Vkhodnoy. This island parallels the E side of Proliv Kostin Shar at a distance of 1.5 to 2 miles offshore. It is 20 to 31m high, flat, and steep-sided except at the N end where it terminates in a narrow spit.

Ostrova Bogdanova, formed by two islets, lies almost midway between Ostrov Timofeyeva and Mys Vkhodnoy. A

shoal patch, with a depth of 5.5m, and another patch, with a depth of 4.2m, lie about 1.2 miles SW and 1.5 miles W, respectively, of the N extremity of Ostrov Timofeyeva.

Ostrov Sobachiy (71°18'N., 53°19'E.), the largest island in the central part of Proliv Kostin Shar, lies 1.5 miles N of the N extremity of Ostrov Timofeyeva. This island extends NW for 6.8 miles from its SE extremity and a cove indents its NW side. An islet is located 0.8 mile N of the W entrance point of this cove and a large above-water rock lies close S of it.

Proliv Uzkiy separates Ostrov Sobachiy from the coast of Novaya Zemlya and from Ostrov Ter-Tyre, which lies close NE of it. This passage, which is about 0.2 mile wide at its narrowest point, has depths of 25 to 49m in the fairway. Vessels passing through it should keep in the middle of the channel in order to avoid the small spits that project from each side.

Proliv Shirokiy separates Ostrov Sobachiy from Ostrov Glotova (71°18'N., 53°13'E.), which is mainly hilly and steep-sided. The passage, which is narrowed by spits extending from both islands, has a least width of 0.2 mile.

4.19 Ostrov Dvoynoy (71°17'N., 53°08'E.) lies W of Ostrov Glotova and is separated from it by Proliv Kitovyy. This channel has a least width of 0.5 mile and depths of 7m in its S part and 40m in its central part. An above-water rock lies in the middle of the NW end of the channel. Ostrov Dvoynoy consists of two parts joined by a narrow isthmus. The coast of the island is steep except on the E side of the N part.

Ostrov Uzkiy, a low and narrow islet, lies 1 mile SE of the S extremity of Ostrov Dvoynoy. A shoal, which has not been examined, lies about midway between the islands. A vessel, with a draft of 5.5m, has reported (1935) touching bottom on this shoal.

Ostrov Plesh, a steep-sided islet, lies 0.8 mile N of Ostrov Dvoynoy and its N end is steep-to.

Ostrova Bratany (71°20'N., 53°06'E.), formed by two small and conspicuous islets, lies 0.8 mile NNW of Ostrov Plesh.

Ostrov Bezymyanny (71°22'N., 53°02'E.) lies with its S end located 2 miles W of the NW extremity of Ostrov Sobachiy. This island is hilly, 30m high, and another island lies 0.8 mile NE of it.

Guba Taynaya (71°20'N., 53°20'E.) recedes N between a point, located 4.2 miles NNW of the NW entrance point of Guba Nekhvatoa, and another point, lying 3 miles N of the NW extremity of Ostrov Sobachiy. Ostrov Ter-Tyre, a hilly island with steep sides, lies in the middle of the entrance of this bay and is marked by a beacon. Narrow channels lead into the bay at both sides of this island, but vessels should use the one at the SE end. The bay, in which there are a number of islands, extends inland for about 12 miles.

4.20 Guba Pomorka (71°25'N., 52°52'E.) lies between two peninsulas which project from the N side of Proliv Kostin Shar. Poluostrov Pyrney, the E peninsula, extends 6 miles S and terminates in a point which lies 1 mile WSW of the NW extremity of Ostrov Bezymyanny. Poluostrov Pomor, the W peninsula, extends 3.5 miles SSE and terminates in Mys Pomor-Sale which lies 3 miles NW of the S extremity of Poluostrov Pyrnes. This peninsula is hilly and strewn with rocks. A hill, 167m high, rises at the inner end of Poluostrov

Pomor. It is the tallest in this vicinity and has the appearance of a blunt cone standing on a broad base.

The entrance of Guba Pomorka lies between Mys Pomor-Sale and the W side of Poluostrov Pyrney. From the latter, a narrow projection extends NW for about 1.5 miles into the bay. Both sides of this projection and the W side of the bay are steep. Two islets lie in the bay and three channels lead from the head. The easternmost channel leads to a narrow fjord and the other two lead to a lake. A shoal patch, with a depth of 3.4m, lies in the E part of the bay entrance.

4.21 Guba Zayach'ya (71°27'N., 52°42'E.), which has not been fully surveyed, lies between the NNW part of Poluostrov Pomor and Poluostrov Rogachev. Mys Chernyy, the S extremity of the latter peninsula, is located 4.2 miles WNW of Mys Pomor-Sale. The bay entrance is 1.8 miles wide and lies between a point, located 2.5 miles NW of Mys Pomor-Sale, and Mys Chernyy. The E and W sides of the bay are mainly steep. The E side of the head is formed by a narrow isthmus which separates Guba Zayach'ya from Zaliv Rogacheva. An islet lies near this isthmus.

The bay is exposed to winds from between SE and SW, but small craft can anchor in a small and sheltered cove which is entered N of the E entrance point.

Zaliv Rogacheva is entered between the W extremity of Poluostrov Rogachev and Mys Morozova (71°28'N., 52°27'E.), 3 miles W. It is incompletely surveyed and should not be entered without local knowledge. A cove, with a depth of 20m and a mud bottom, is entered between the E entrance point of this bay and another point, 1.2 miles NE.

The E side of Zaliv Rogacheva is high with mountains rising to heights of over 300m. Mys Morozova is the S extremity of a peninsula which separates the S part of this bay from Guba Belush'ya (71°28'N., 52°20'E.). Two lagoons lie on this peninsula and are separated from the bays, on either side, by low, narrow isthmuses. Several islands lie in the bay, but the depths in the channels leading between them have not been accurately determined.

Between Mys Kit (71°08'N., 53°14'E.) and Mys Makarova, 5.8 miles N, the W side of Proliv Kostin Shar forms two bights which are separated by a narrow peninsula. This peninsula lies about midway along this stretch of coast and projects 0.8 mile E from Ostrov Mezhdusharskiy. Its steep E extremity is known as Mys Malyy Kit.

Mys Kit is bold and a conspicuous hill, 46m high, rises close NW of it. The S part of the coast between this point and Mys Malyy Kit is 9 to 20m high and steep. The N part consists of a narrow ridge which separates the strait from a lake. Between Mys Malyy Kit and Mys Makarova, the coast is shelving except about midway between the points where a steep bluff rises and is backed by a hill, 61m high.

Ostrov Treskina (Ostrov Gagachiy) lies 1 mile ESE of Mys Malyy Kit. This island is steep, narrow, and large above-water rocks lie off its N and S ends. A bank, with depths of less than 11m, connects the island to Mys Malyy Kit and extends about 1 mile NE and 1.5 miles N from the point.

4.22 Mys Makarova (71°14'N., 53°14'E.), a high and steep headland, is the E extremity of the peninsula which is known as Poluostrov Makarova. The N part of this peninsula is lower

than the S part and a conspicuous hill, 50m high, rises near its center.

Guba Makarova is entered between the NW extremity of the peninsula and a point, 2 miles NW. It extends SW for about 2 miles and then trends NW for about 9 miles in the form of an irregular, narrow fjord. This bay has not been surveyed, but is reported to be shallow.

Mys Tsivol'ki (71°23'N., 52°49'E.), a low point, is located 8.5 miles NW of the NW entrance point of Guba Makarova. The coast between is formed by an almost continuous cliff. Beacons stand 0.8 mile WNW of the NW entrance point of Guba Makarova and 0.8 mile S of Mys Tsivol'ki.

The NW part of Proliv Kostin Shar is entered from seaward between Mys Shadrovskiy (71°19'N., 52°16'E.) and Mys Yuzhnyy Gusiny Nos, 10.8 miles NW.

The NW coast of Ostrov Mezhdusharskiy trends NE for 8 miles between Mys Shadrovskiy and the NW extremity of Poluostrov Yartsev. This section of coast is precipitous and several points, 20m high, project from it. Mouths of streams and shingle beaches lie in the slight indentations formed between these points. A bight, lying close SW of Poluostrov Yartsev, is separated from a fresh-water lake and a salt-water lagoon by narrow strips of driftwood-covered beach. A spit, with a depth of 5.5m near its outer end, extends about 1.8 miles NW from a point located 2.2 miles NE of Mys Shadrovskiy.

4.23 Poluostrov Yartsev (71°23'N., 52°36'E.) projects 1 mile NW from the coast and its sides are cliffy and about 20m high. Three above-water rocks lie close off the NW extremity of this peninsula. The middle rock is very conspicuous from the W.

Ostrov Yartsev lies with its S end located 0.5 mile NW of the NW extremity of Poluostrov Yartsev. This island is 30m high and extends 2.2 miles NNW. With the exception of the middle part of its E side, the coast of this island is precipitous. A small cross stands near the S end of the island and a cairn is situated near the N end. A spit, with depths of less than 11m, extends about 1.2 miles NNW from the N end of the island.

Zaliv Val'kova, the largest indentation on the N coast of Ostrov Mezhdusharskiy, is approached on the S side of the N part of Proliv Kostin Shar between the NW extremity of Poluostrov Yartsev and Mys Val'kova (71°24'N., 52°44'E.), 2.5 miles ENE.

Ostrov Val'kov, a narrow island, lies near the middle of the approach to this inlet and its NW extremity is fronted by a small islet. Two hills, each 31m high, stand on the N part of the island and a cross is situated near the S end.

The W entrance point of Zaliv Val'kova, surmounted by two crosses, is formed by the N extremity of a small, narrow peninsula which projects from a point on the coast located 1.5 miles SE of the NW extremity of Poluostrov Yartsev. The inlet entrance is 1 mile wide and the shores are generally steep. The central part has depths of 11 to 18m over a bottom of sand. The inlet is exposed to NW winds and vessels should give the foul ground fronting the W entrance point a wide berth.

4.24 Mys Yuzhnyy Gusiny Nos (71°27'N., 51°56'E.), located on the mainland, is a rocky cape which is higher than the adjacent coast.

Ostrov Podrezov (71°26'N., 51°58'E.), lying 2 miles SSE of the cape, is a flat and steep-sided islet which is fronted by a reef on its S side. A rocky ledge, with a steep-to W edge, extends about 0.4 mile W from this islet. A bank, with a least depth of 3.7m, extends about 1 mile N from the islet. A light is shown from a structure, 18m high, standing on the islet. Vessels are advised to pass at least 1.5 miles S of this islet and should not attempt to pass N of it.

Between Mys Yuzhnyy Gusinyy Nos and Mys Lilye (Mys Lil'e), a dark-colored point 7.2 miles E, the N side of Proliv Kostin Shar forms two bights.

Mys Sredniy Gusinyy (71°27'N., 52°07'E.), a conspicuous and high point, is located between these two bights, the easternmost of which is very shallow. A light is shown from a tower, 7m high, standing on Mys Lilye.

4.25 Guba Belush'ya (71°28'N., 52°20'E.), entered between Mys Lilye and Mys Morozova, affords anchorage for vessels of any size. From its entrance, which is about 3 miles wide, this bay extends 6.5 miles NNW. Both sides of the bay are composed of slate and are without vegetation. The fairway channel has depths of 29m in the entrance and 11m near the head. Range lights are shown from structures standing on the NW, N, and E sides of the bay.

The prevailing winds in the bay are N and NW and are of moderate force. Winds from the W and SW are seldom very strong. The most dangerous strong wind is the bora which usually blows from between E and ENE. No strong currents have been observed in the bay. The time at which the bay is clear of ice depends on the wind, but it is usually ice-free by the end of June. Winds from the N drive the ice out of the bay, but S winds force the ice coming through Proliv Karskiye Vorota from the Kara Sea into it. The bay usually freezes over at the latter part of October or the beginning of November.

The W shore of the bay is 26m high near Mys Lilye, but rapidly decreases in height to the N. Mys Chernoye Sedlo, located 5 miles NNW of Mys Lilye, is a conspicuous, high, and saddle-shaped point. Another similar point is located 0.5 mile NE. A rocky bank, with depths of less than 11m, extends about 0.8 mile SE from Mys Chernoye Sedlo.

The E shore of the bay is rocky and generally higher than the W side. Mys Astronomicheskii, a rocky point, is 7 to 9m high and projects from the E side of the bay, 5 miles NW of Mys Morozova. A rocky bank, with depths of less than 5m, extends about 0.2 mile W from this point. A stone beacon, 13m high, stands on the point and marks an observation spot. Several islets and islands lie at the head of the bay.

4.26 A polar station and settlement, with a number of houses and several other buildings, stand on the E coast of Bukhta Samoyed. There is a wooden wharf, 61m long, with a depth of 4.9m alongside.

A stone cairn, with a mast, stands on the NW slope of a hill, 1.5 miles N of the beacon on Mys Astronomicheskii. This cairn and the beacon bear 003°04' in line and can be used for compass adjustment.

Vessels can anchor anywhere in the N part of Guba Belush'ya, clear of the shallow water bordering the shore. The bottom provides good holding ground and consists of mud in the central part of the bay and rock, stones, or sand near the

shore. Only S winds, which blow infrequently in summer, raise any sea in the bay, but little swell is felt near the head.

Bukhta Samoyed, lying 0.5 mile NNE of Mys Astronomicheskii, affords good anchorage in depths of 5 to 7m, mud. Vessels should anchor on the alignment of the lighted range situated at the E side of the bight as the depths decrease rapidly to the N. Vessels anchoring off the SE side of this bight can secure their sterns to the shore.

The W side of the broad peninsula known as Gusinaya Zemlya (71°50'N., 51°26'E.) is cliffy and, with the exception of its N part, is steep-to. Numerous streams discharge into the sea along this stretch of coast, but there are no large indentations. Hills, 19 to 40m high, rise near the coast and higher hills stand inland. The mouth of Reka Sauchikha, lying 10 miles NW of Mys Yuzhnyy Gusinyy Nos, appears as a conspicuous gorge in the coastal cliffs.

Sauchikha Beacon (71°35'N., 51°35'E.), 16m high, stands on the S side of the mouth of the above gorge. The structure is equipped with a radar reflector.

4.27 Mys Severnyy Gusinyy Nos (72°09'N., 51°51'E.), 9 to 12m high, is the N extremity of a steep headland which projects N from Gusinaya Zemlya.

A conspicuous and flat-topped hill, surmounted by a cairn, rises near the point. A light is shown from a square tower, 18m high standing 1.5 miles SSE of the point. The tower is equipped with a radar reflector.

Shoals, which break, extend an unknown distance NW from Mys Severnyy Gusinyy Nos. A rock, which dries, and a shoal, with a depth of 8.8m, lie about 4.5 miles NW and 3.8 miles NE, respectively, of the point. Two drying patches, located 2 miles apart, lie about 5 miles W of the point.

Vessels are advised not to approach within 6 miles of Mys Severnyy Gusinyy Nos as the dangers in this vicinity are steep-to on their seaward sides and soundings give no warning of their proximity.

Zaliv Mollera (72°25'N., 52°00'E.) recedes to the E between Mys Severnyy Gusinyy Nos and Mys Britvin, 35 miles NNE. Many islands and dangers lie within this extensive bay and numerous coves and inlets indent the shore. Hills, up to 280m high, stand along the E side of the bay. There are no conspicuous peaks, except for Gora Verbylyuzh'ya, 466m high, which rises 15 miles E of Mys Severnyy Gusinyy Nos.

Zaliv Mollera has not been completely surveyed and its SE part has not been examined. The depths in the bay are very irregular and the bottom consists of sand, pebbles, and mud in places. During thick weather with strong W winds, vessels should keep 15 to 20 miles off the shores of this bay and in depths of not less than 70 to 90m.

Between Mys Britvin and Mys Stolbovoy, 45 miles NE, the coast is mostly precipitous, the N part being lower than the S. Several mountains stand inland. Two bays and several smaller bights indent this stretch of coast.

A current, which sets N and attains a rate of 0.5 knot, has been observed off this part of the coast, between Mys Britvin (72°42'N., 52°25'E.) and Ostrov Golets (73°03'N., 53°07'E.).

The depths off this part of the coast are irregular and there are large unexamined areas. A shoal, with a number of rocks, lies about 3 miles S of the S extremity of Mys Britvin. The



Ostrov Bazarnyy bearing about 050°, distant 1 mile

extent and depths over this shoal are unknown, but seas break heavily on it during fresh winds. Shallow patches lie N and S of this shoal and vessels should keep well clear.

4.28 Guba Lutke (72°06'N., 52°03'E.) is entered between Mys Severnyy Gusinyy Nos and Mys Nikol'skiy Nos (72°07'N., 52°11'E.), 6.5 miles ESE. This bay is open to the N and breakers have been observed in the outer part, about 0.5 mile W of the E entrance point.

Guba Obsed'ya (72°04'N., 52°21'E.), which forms the SE corner of Zaliv Mollera, is entered between Mys Nikol'skiy Nos and a point, 3.5 miles ESE. This bay is encumbered by numerous rocks and islets.

Mys Korel'skiy (72°16'N., 52°27'E.) is located 10 miles NNE of Mys Nikol'skiy Nos. The coast between, at the E side of Zaliv Mollera, is fringed by numerous islands and rocks, and indented by several coves and inlets, which are accessible only to small craft with local knowledge. Ostrov Rudakova, the largest of these islands, lies with its S extremity located 3.2 miles ENE of Mys Nikol'skiy Nos. Above and below-water rocks, on which the sea breaks, extend about 1.5 miles WNW from the N part of this island.

Guba Khramtsova is entered between Mys Korel'skiy and Mys Deploranskogo, 5.5 miles NNE. This rather large bay is encumbered by islets and dangers, and is of no navigational importance. The NE side of the bay is formed by Poluoostrov Khramtsova, on which stand several small hills, 18 to 24m high. This peninsula terminates, at the NW end, in Mys Deploranskogo, a low spit with rocks and foul ground extending up to 1 mile NW of it.

4.29 Ostrov Khramtsova (72°20'N., 52°32'E.) lies W of the outer extremity of Poluoostrov Khramtsova and is separated from it by a narrow strait. Two conspicuous hillocks stand on this island and a cross is situated on its narrowest part. A reef, partly above water, extends about 0.5 mile NW from the NW extremity of the island and is covered with breakers during fresh winds.

Guba Domashnyaya is entered 3 miles ESE of Mys Deploranskogo. This inlet has a narrow entrance, which is accessible only by boats and fronted by sandbanks.

Ostrov Karmakul'skiy (72°23'N., 52°39'E.), the largest island in the approaches to Malyy Karmakuly (72°23'N., 52°43'E.), lies with its SW extremity located 0.8 mile NE of Mys Deploranskogo. This island is irregular in shape and consists of two parts connected by a low and narrow isthmus. Several hills, 30 to 38m high, stand near the S and NW extremities of the island.

Ostrov Blizhniy (72°22'N., 52°41'E.) is the largest and easternmost of a group of small islands located SE of Ostrov Karmakul'skiy. The N end of this island lies 0.5 mile S of the SE extremity of Ostrov Karmakul'skiy. The islands of this group, like the others in this vicinity, are dark-colored and comparatively low.

4.30 Ostrov Bazarnyy (72°25'N., 52°41'E.), a narrow and moderately high island, lies 0.5 mile N of the N extremity of Ostrov Karmakul'skiy.

A rocky patch, with a least depth of 7.3m, lies about 1 mile NW of Mys Deploranskogo. A large shoal area, on which the sea breaks, extends about 1 mile W from Ostrov Karmakul'skiy. This area is steep-to, but its outer limit has not been accurately determined. In this vicinity, vessels should not approach Ostrov Karmakul'skiy within depths of less than 36m.

A rocky patch, with a least depth of 7.2m, lies about 0.2 mile N of the NW extremity of Ostrov Karmakul'skiy. Banka Ignat'yeva, a rocky area, has a least depth of 3.9m in its S part and lies about 0.6 mile N of this patch.

Reefs, with depths of 1 to 3m, extend about 0.2 mile W and 0.3 mile SW from Ostrov Bazarnyy. A shallow spit fronts the S end of this island.

Nayezdnyk Beacon (72°24'N., 52°38'E.), 9m high, stands near the NW extremity of Ostrov Karmakul'skiy.

4.31 Malyy Karmakuly (72°23'N., 52°43'E.) ([World Port Index No. 62760](#)), a settlement and polar station, is situated on a small mainland promontory which terminates to the N in Mys Priyuta. A prominent gray storehouse, formerly a church, stands in the highest part of this settlement and a flagstaff is situated near it.

Winds—Weather.—Boras occur frequently at the station. During the summer, these strong winds blow from ESE and usually last for 1 to 2 days. In winter, these winds are of a longer duration.

Ice.—From observations made over a period of 6 years, the mean date for the first appearance of ice in the roadstead off the Malyy Karmakuly was October 24. In the open sea off the settlement, ice first appeared on November 25. The mean dates for the close of navigation, breakup of the ice, opening of navigation, and final disappearance of the ice in the roadstead were, respectively, November 10, June 17, June 26 and July 13. The mean dates for the close of navigation, opening of navigation, and final disappearance of the ice in the open sea in the vicinity were, respectively, December 30, May 25, and June 5.

Aspect.—When seen from a distance to the W, the land in the vicinity of Malyy Karmakuly has few conspicuous

features. The hills near the coast rise to heights of 180 to 210m and are uniform in appearance. In clear weather, the entrances of Guba Domashnyaya and Guba Bol'shaya Karmakul'skaya, the latter lying 7 miles N of the settlement, appear as gaps in the coastal hills. Ostrov Bazarnyy, which is covered with guano, is often seen as a prominent white patch against the land, especially when the visibility is poor. Three fissures in the cliffs of this island have the appearance of dark streaks when seen from a short distance seaward. The storehouse in Malyy Karmakuly can be seen from the NW across the isthmus joining the two parts of Ostrov Karmakul'skiy.

4.32 Farvater Promorskiy (72°24'N., 52°43'E.), the principal channel from the N, leads S of Banka Ignat'yeva, between Mys Nordovyy Karmakul'skiy (72°24'N., 52°40'E.) and Ostrov Bazarnyy, and then to the roadstead of Reyd Nayezdника (72°24'N., 52°42'E.). This channel is indicated by a lighted range and has a least depth of 14.6m on the alignment as far as the roadstead.

Another channel, which leads S from seaward to Reyd Priyut'skiy, passes between Ostrov Karmakul'skiy and the reefs extending N from Ostrov Dal'niy (72°22'N., 52°39'E.) and Ostrov Sredniy (72°22'N., 52°40'E.). It then passes between Ostrov Blizhniy and a shoal lying between that island and the SE extremity of Ostrov Karmakul'skiy. This channel has a least depth of 5.8m, but is not marked and should only be used by vessels with local knowledge.

Reyd Nayezdника lies NE of Ostrov Beluzhiy, between Ostrov Karmakul'skiy and the mainland. This roadstead has depths of 20 to 24m over a bottom of mud. The S part of this roadstead, lying E of Ostrov Beluzhiy, has depths of 4.6 to 9m, is well sheltered, and is known as Reyd Pomorskiy.

Reyd Priyut'skiy lies W of Malyy Karmakuly, but this roadstead is not secure during strong winds. Vessels should anchor in depths of 13 to 16m, mud over rock, about 300m offshore and W of the storehouse at the settlement.

Caution.—During darkness or in thick weather, vessels from seaward approaching the coast in the vicinity of Malyy Karmakuly should keep in depths of at least 35m.

4.33 Guba Srednyaya (72°26'N., 52°43'E.), lying within Zaliv Mollera, is entered between a point, located 1 mile N of Mys Fefelova (72°24'N., 52°42'E.), and the S extremity of Poluostrov Poluektova, 1 mile N. This bay is divided into two parts by two peninsulas which extend from its N and S sides. The inner part of the bay consists of two coves which have shelving shores. The entrance to the NE cove is encumbered by two small islets.

A reef, which breaks, lies about 1 mile W of the S entrance point of Guba Srednyaya.

Poluostrov Poluektova (72°27'N., 52°42'E.) is located between Guba Srednyaya and the entrance to Guba Bol'shaya Karmakul'skaya. This peninsula is 19 to 25m high and appears fairly level from seaward. Mys Moiseyeva, the N extremity of the peninsula, is formed by a gently sloping point. A hill rises close E of the isthmus which joins the peninsula to the mainland. It is 116m high and shaped like a truncated pyramid.

Ostrov Poluektov (Ostrov Poluektova), fringed by reefs, lies 1 mile NNW of the S extremity of Poluostrov Poluektova and

about 0.2 mile offshore. Although small, this islet is very prominent.

Guba Bol'shaya Karmakul'skaya (72°32'N., 52°48'E.), an extensive inlet, is entered between Mys Moiseyeva and Mys Dmitrieva, 3 miles NNW. The width of this inlet is reduced to about 0.5 mile by a peninsula extending from the SE side, 4.5 miles NE of Mys Moiseyeva. The inlet then trends 4 miles ENE and 4 miles ESE to its head. The S side of the outer part of the inlet has numerous indentations. Within the inlet, the shore rises to heights of 150m in places, but is shelving at the head. Ostrova Melkiye and numerous shoals lie in the outer part of the inlet and two islands lie near the narrow part. During fresh W winds, the sea breaks on the outer shoals. A reef, partly above water, extends about 0.2 mile SW from Mys Dmitrieva.

Although the entrance to Guba Bol'shaya Karmakul'skaya is greatly encumbered by islets and shoals, a fairway channel, with depths of 11 to 29m, is reported to lie about 0.2 to 0.4 mile off the S side of the entrance and pass S of all the dangers. A cove, entered at the E side of the N part of the inlet, affords shelter to vessels with local knowledge. Vessels can anchor in depths of 5 to 11m, mud, about 0.5 mile W of the remains of an abandoned settlement which is situated on the E side of this cove.

4.34 Guba Rassol'naya (72°34'N., 52°43'E.) is entered between a point, located 2 miles N of Mys Dmitrieva (72°32'N., 52°43'E.), and the S extremity of a peninsula, 2.5 miles N. A rocky patch, with a depth of less than 1.8m, lies about 1.2 miles WSW of the S entrance point of this bay. A group of above-water rocks lies in the entrance and numerous other rocks, both below and above-water, lie in the bay and fringe the coast to the S. During fresh onshore winds, breakers appear throughout most of this bay.

Zaliv Pukhovyy (72°38'N., 52°40'E.) is entered between the W extremity of the peninsula, which forms the N side of Guba Rassol'naya, and Mys Bazarnyy (72°39'N., 52°39'E.), a steep and dark-colored point, 2.5 miles NNW. This inlet extends inland for 10 miles in a general E direction. Its shores are mostly steep and indented by a number of bights fringed with sandy beaches. The land rises from the shores to heights of up to 150m, but there are no conspicuous summits.

Two narrows divide this inlet into three parts which are of nearly equal length. The outer part of the inlet is sheltered, to some extent, by Ostrov Pukhovyy, the S end of which lies 0.8 mile WNW of the S entrance point. This island, which is marked by a beacon, can be identified by its light-gray and guano-covered sides and by its bluff S end. However, it is not easily distinguished against the background of the mainland. The island is steep-to, flat, and has a gradual downward slope from S to N. A reef, awash, extends about 0.5 mile N from its N extremity. This reef is clearly visible when the water is smooth and broken water appears on it in the slightest sea.

Several dangers lie in the approach to Zaliv Pukhovyy including a shoal, which lies about 4 miles W of Mys Bazarnyy. This shoal, known as Banka Britvinskaya, has not been fully examined nor its limits determined and should be given a wide berth. A number of rocks lie on the shoal and the sea breaks heavily over it during fresh winds.

The depths in the W part of Zaliv Pukhovyy are very irregular. Several islets, rocks, and shallow shoals lie in this part of the inlet. The passage lying between Ostrov Pukhovyy and the S side of Zaliv Pukhovyy is almost completely obstructed by dangers. However, a channel, with depths of not less than 10m, leads from the passage, between Mys Bazarnyy and Ostrov Pukhovyy, to that part of the inlet lying between the two narrows. This channel is narrow, winding, and very difficult to navigate.

Zaliv Pukhovyy widens to the E of the narrows and forms a basin in the middle of which lies a small islet. The bottom in this part of the inlet is quite even and consists of mud. Depths of 11 to 13m lie in the central part of the basin, except in the vicinity of the islet. The E part of the inlet is of no navigational importance.

Vessels may anchor in depths of 11 to 13m, rocks, SE of a log house which stands 0.5 mile N of Mys Bazarnyy. During E winds, which are usually very strong, this anchorage is dangerous and during S and W winds, it is exposed to a heavy swell. Vessels approaching the anchorage should keep somewhat closer to Mys Bazarnyy than to Ostrov Pukhovyy in order to avoid the reefs extending N from the latter. Care should be taken to clear a shoal patch, with a depth of 8.8m, which lies about 0.5 mile ENE of Mys Bazarnyy.

4.35 Mys Britvin (72°42'N., 52°25'E.), located 5 miles NW of Mys Bazarnyy, is formed by a small peninsula, 9 to 12m high, which has three projections. It is joined to the mainland by a low isthmus, on which lies a lagoon. The southernmost projection is cliffy, dark-colored, and conspicuous from the SW. An above-water rock and a rock, awash, lie about 0.2 mile S and 1.8 miles NNW, respectively, of the S extremity of this projection. A light is shown from a prominent structure, 19m high, standing on the extremity of this projection.

When seen from a distance to the NW or N, Mys Britvin has the appearance of a low island surmounted by a hill.

Caution.—Due to the area in the vicinity of Mys Britvin not being completely surveyed, vessels should not approach within 6 miles of this part of the coast.

An ammunition dumping area, which may best be seen on the chart, lies about 60 miles W of Mys Britvin. Anchoring, fishing, or the use of explosives within this area is not recommended.

Mys Stolovyy (72°48'N., 52°30'E.), a small bluff, is located about midway between Mys Britvin and Mys Chum and a small bight, with a narrow and sandy beach, lies close S of it.

Mys Chum (72°51'N., 52°37'E.), 12m high, is very conspicuous from the SSW and NE. From a distance of about 10 miles, this point has the appearance of a low and sandy spit. On the NE side of the point, the coast decreases in height for about 1 mile and then rises and continues ENE in the form of precipitous cliffs, 30 to 40m high. A valley, located 4.5 miles ENE of the point, is reported to be very conspicuous from seaward.

Mys Nordenshel'da (72°54'N., 52°57'E.) is a narrow projection, 3m high. Several hills, with steep slopes on their W and N sides, rise to heights of up to about 260m about 1 mile SE of this point.

Caution.—An above-water rock and a shoal patch, with depth of 8.2m, lie about 2.5 miles N and about 7 miles WNW, respectively, of Mys Nordenshel'da.

A rocky spit, with a depth of 4m at its outer extremity, extends about 5.8 miles N from the W side of Mys Nordenshel'da. Several above-water rocks lie close to the shore about 0.5 mile SW of the same point.

4.36 Guba Bezmyannaya (72°56'N., 53°00'E.) is entered between Mys Nordenshel'da and Mys Krutoy, 3.5 miles NE. For more than 3 miles to the E of the former point, the S side of this bay is bordered by cliffs. A narrow terrace, from which steep mountains rise to heights of up to 350m, lies along the shore, close E of these cliffs. Farther E, mountains, with more gradual slopes, rise inland. The N side of the bay rises to a height of 80m in places. Mys Krutoy is fronted NW by rocks and above-water rocks extend up to 0.8 mile S of the N shore of the bay. The E part of the bay is encumbered with numerous islands and sandbanks.

Vessels proceeding into Guba Bezmyannaya should enter only from the N as the S approach is dangerous. Local knowledge is required. Vessels may anchor in depths of 10 to 12m between 0.1 and 0.2 mile off a point located on the S side of the bay, 2.8 miles E of Mys Nordenshel'da. A log house is reported to stand on this point and a conspicuous gorge is located close to it.

Mys Ivanova is located 3.2 miles NNE of Mys Krutoy. The coast between forms the W side of a peninsula which separates Guba Bezmyannaya from Guba Gribovaya, the next bay to the N.

Gora Pervousmotrennaya (72°58'N., 53°11'E.), 617m high, rises on this peninsula, ENE of Mys Krutoy. The summit of this dome-shaped mountain is not clearly defined and its SW and NW sides are very steep. The mountain is conspicuous, but its upper part is frequently obscured by clouds. At such times, it can only be identified by the steep W slope.

The character of the coast changes at Gora Pervousmotrennaya. The hills standing near the coast to the S of this mountain are of moderate and uniform height whereas those standing to the N are mostly steep, over 300m high, and rise, in places, abruptly from the sea.

Guba Gribovaya (73°01'N., 53°16'E.) is entered between Mys Ivanova and the S end of Ostrov Golets, 3 miles NNW. The sides of this bay are formed mainly by a succession of bights separated by bold points.

Mys Astaf'yeva, located 1.5 miles ENE of Mys Ivanova, is the S entrance point of the inner part of the bay. Mys Yegorov, the N extremity of a projection, is located 2 miles ESE of this point.

Mys Studnitskogo is located on the NE side of the bay, 1 mile NNW of Mys Yegorov. A dome-shaped mountain, 658m high, stands 2.2 miles NE of this point and is conspicuous when viewed from the entrance of the bay. Several streams flow into the bay.

Ostrov Golets (73°04'N., 53°06'E.) is low and steep-sided with a slight elevation in the middle. Several above-water rocks lie close off the S end and the W side of this island and a reef extends 0.5 miles S from the S extremity. A shoal patch, with depths of less than 4m, lies about 1.8 miles SE of the S end of

the island, but its full extent is unknown. A light is shown from a tower, 13m high, standing near the middle of the island.

4.37 Ostrov Shestakova (73°01'N., 53°14'E.) lies 0.7 mile N of Mys Astaf'yeva and above-water rocks lie about 0.5 mile W and 0.2 mile SE of it. Smaller islets lie 0.2 mile E and 1 mile ENE of this islet.

A shoal, with a depth of 8.2m, lies about 0.3 mile NNE of Mys Astaf'yeva. Ostrov Golitsyna, lying 0.5 mile W of Mys Astaf'yeva, is a small islet from which a spit, with a depth of 4.2m at its outer end, extends 0.5 mile N. Ostrov Veselago lies close off the N side of the inner bay, 0.5 mile WNW of Mys Studnitskogo. An above-water rock lies in the middle of the inner part of the bay, about 0.5 mile SSW of Mys Studnitskogo.

The channel leading from seaward to the anchorage in the inner part of the bay has a least depth of 8.2m. However, the narrowness of this channel to the NE of Mys Astaf'yeva restricts its use to vessels with drafts of up to 5.5m. The inner part of the bay has depths of 14 to 31m at the W side and 12 to 17m at the E side. The N part of the bay has not been fully examined, but the depths in that area appear to be very irregular.

When approaching Guba Gribovaya, the S end of Ostrov Golets is conspicuous from the NW, but it merges with the land on the NE side of the bay when seen from the SW. On approaching closer, this island appears as a dark strip against the yellowish background of the land behind it.

Vessels can anchor in depths of 20 to 31m, fine sand or mud, in the outer part of the bay, about 1.2 miles NNE of Mys Ivanova, but this roadstead is exposed to W winds. An anchorage lies in the inner part of the bay near the head, NE of Mys Yegerov. It is very sheltered and has depths of 14 to 16m over a bottom of mud.

Mys Dolgiy is located 12 miles NNE of Ostrov Golets. The coast between this point and another point, located 1 mile NNE of Ostrov Golets, is low and bluff. Except for two small bights at the SW end, this stretch of coast has no noticeable indentations. From the shore, the land, which is slightly undulating, extends 5 miles inland and rises gradually to a range of mountains, 360 to 790m high. This part of the coast appears to be steep-to and, except for a few isolated above-water rocks, is mostly clear of dangers.

Bukhta Otkrytaya (73°15'N., 53°35'E.), which is open to the N, is entered between Mys Dolgiy and a point, 4 miles ENE. From this inlet, the coast then trends ENE for 4 miles to Mys Stolbovoy.

Ostrov Pankov (73°17'N., 53°43'E.), surmounted by a prominent beacon, lies 3.8 miles W of Mys Stolbovoy. This islet is low, flat, light-colored, and steep-to on its seaward side. Two above-water rocks lie in the channel leading between this islet and the mainland. Breakers have been reported in this channel and indicate the probable presence of other dangers.

A shoal, the existence of which is doubtful, has been reported to lie about 10.5 miles W of Ostrov Pankov.

Proliv Matochkin Shar

4.38 Proliv Matochkin Shar, which divides Novaya Zemlya into two parts, is about 55 miles long and, for the greater part

of its length, lies between high and mostly rocky mountains. The W entrance of this strait lies between Mys Stolbovoy and Mys Serebryanny. The E entrance lies between Mys Rok and Mys Vykhnodnoy, which is located on the E coast of Novaya Zemlya. In some places, the strait is narrowed by both sides, the average width being about 1 mile. The fairway channel, in several places, is marked by buoys and, for most of its length, indicated by lighted ranges.

Two settlements are situated on the shores of the strait. One stands on the S side near the W entrance and the other on the N side about 7 miles within the same entrance. Polar stations are maintained at Mys Stolbovoy, at the W entrance, and at Matshar (73°16'N., 56°24'E.) radio station, on the N side of the strait, 6 miles within the E entrance.

Mys Stolbovoy (73°18'N., 53°56'E.), the SW entrance point of the W entrance, is formed by a high and bold headland. The land to the S of this point rises gradually and extends 1.5 miles SW to Gory Konusnye, which consists of two conspicuous conical hills. The southwesternmost and taller hill is 190m high.

Two pillar rocks lie on a reef, which extends 0.5 mile N from the point and has a steep-to outer edge.

A beacon stands 0.5 mile SSW of the point and appears as a large black cairn on a hillside when seen from a distance. This beacon is sometimes obscured by fog while the lower land in its vicinity may be visible. A polar station is situated 0.5 mile SSE of the beacon.

4.39 Mys Serebryanny (73°21'N., 54°04'E.), located 4.2 miles NNE of Mys Stolbovoy, is the W extremity of a peninsula which forms the N side of the entrance to the strait. Gory Litke rises close inland, 4 miles E of the point. This mountain is 682m high and slopes down to the SSW.

Ivanovy Kamni, a rocky islet, lies 0.5 mile SW of the point and is fronted by above-water rocks and a reef. It is not easily distinguished from the W against the background of the coast.

Winds—Weather.—Although the distance between the W and E entrances of Proliv Matochkin Shar is small, weather conditions may be entirely different at either end. The wind may be blowing from the W at the W end and, at the same time, blowing from the E at the E end. On some occasions, an E gale may occur at the W end while a W or NW gale is occurring at the E end. The W part of the strait has a milder climate than the E part. At the W entrance, the weather is usually misty and hazy during W winds, but is clear during E winds. Throughout the navigation season, snow squalls may be encountered, but mainly in September and October. Fog, which occurs frequently in the strait, usually appears with E winds, but it may also occur with W winds at the W entrance. Ice is usually present when fog occurs.

Ice.—Ice conditions in the W part of Proliv Matochkin Shar are considerably different from those in the E part. During the navigation season, ice very rarely appears in the W part, but its appearance in the E part is dependent on the conditions of the ice in the Kara Sea. When ice accumulates off the E coast of Novaya Zemlya, E winds will move it into the E entrance. The ice will then be carried farther into the strait by the tidal current. With E winds of long duration, the E entrance and a considerable part of the strait are covered with ice as long as the wind lasts. When the wind becomes W, the ice soon leaves

the strait. During light winds, the movement of ice in the strait is caused almost wholly by the tidal currents and large areas of open water, filled with broken ice, are formed off the E entrance.

During E winds, the ice becomes tightly packed in that part of the strait lying between the E entrance and the narrowest part, about 20 miles W. Farther W, close ice will alternate with broken ice, depending upon the direction of the tidal current. Ice seldom passes W of Mys Morzhov (73°25'N., 54°55'E.), but, after a number of changes of direction by the tidal current during a prolonged period of E winds, it sometimes appears in the W part of the strait.

The Kara Sea ice, which enters the strait, frequently consists of floes and heavy broken ice. When the pressure of the ice is great, hummocked ice is occasionally formed in the narrowest part of the strait and ice accumulates along the shores.

With ice in the strait, the possibility of a vessel passing through it is determined principally by the amount and compactness of that ice. In the narrow parts of the strait, the tidal current often carries the ice at a considerable speed and a vessel proceeding against the current may receive severe blows. The steep-to shores of the strait permit a close approach by a vessel in most places, thereby facilitating navigation through the ice. When broken ice occurs in the E entrance, the area lying off the N shore in the vicinity of Matshar radio station, where the tidal currents are weak, usually has less ice in it than the middle or the S part of the strait.

In winter, fast ice covers the entire strait except in the narrows, where, in some years, there are areas of open water. This fast ice usually extends about 2 to 10 miles offshore at the E entrance, its seaward limit depending on the prevailing wind.

The ice in the W entrance breaks up earlier and freezes later than that in the E entrance. In the winter of 1927-1928, the first appearance of ice in the W entrance was on December 6 and the formation of fast ice commenced on December 8. However, this part of the strait did not become entirely icebound until March 21. In that same winter, the first appearance of slush and drift ice off Matshar radio station was on October 29 and the strait was completely frozen over on October 31. In the spring of 1928, the ice in the W part of the strait broke up on April 25 and this area was completely clear by May 21. The ice in the E part of the strait did not break up until July 5 and this area was not completely clear until September 10.

Tides—Currents.—The tidal currents in Proliv Matochkin Shar set in the direction of the axis of the strait. They are normally quite regular and reverse their direction about every 6 hours. The tidal currents attain a mean rate of about 2 knots, but in the narrowest parts of the strait they attain rates of 3.5 to 4 knots and up to 5 knots at springs.

The winds affect the period and velocity of the tidal currents. Winds from the W may increase the duration of the E current to 9 hours, whereas winds from the E may reduce its duration to 3 or 4 hours. An interruption of the regularity of the tidal currents is a good indication of winds to be expected in the immediate future.

In the W part of the strait, the tidal current begins to set E at 2 hours 40 minutes after HW at that place. It begins to set W at 2 hours 40 minutes after LW. A vessel entering the strait when the tidal current turns in a favorable direction will carry it throughout the passage.

Depths—Limitations.—In the W part of Proliv Matochkin Shar, the fairways have depths of 12 to 26m. Between Mys Morzhov and Mys Zavorotnyy (73°21'N., 55°19'E.), the depths are much greater, being as much as 90 to 140m in some places. Depths of 14 to 22m lie in the E end of the narrowest part and very irregular depths of 42 to 180m lie in the E part of the strait.

Aspect.—Because of the uniform appearance of the mountains bordering Proliv Matochkin Shar, the location of the W entrance is not easily identified from a distance to seaward.

In clear weather, a vessel approaching the W entrance from SW will sight Ostrov Pankov (73°17'N., 53°43'E.) open NW of Mys Stolbovoy. This islet appears either black or whitish, depending on the light. Mys Stolbovoy can be identified by Gory Kunusnye rising SW of it.

The great mountainous mass of Mityushev Kamen is visible in clear weather from a distance of 20 to 25 miles and its summit, **Gora Monakh** (73°30'N., 54°29'E.), is 984m high. This mass dominates the vicinity and its steep S slopes are conspicuous. Farther S, the mountains appear as an almost continuous chain extending as far as Gora Pervousmotrennaya.

When first seen from NW, Mys Stolbovoy appears as a dark patch, but it can be identified by Gory Konusnye which, from this direction, is more conspicuous than the point.

Pilotage.—During the navigational season, pilots will conduct vessels through the W and E entrances of the strait. A vessel requiring a pilot should communicate with the pilot vessel by radio.

Pilots normally board vessels approaching from the W off Mys Stolbovoy. In bad weather, pilots may board between Ostrov Chernyy Kamen (73°17'N., 54°16'E.) and Kamni Yegorova, 5.5 miles E. During gales or with a heavy sea running, pilots may board off the settlement on Mys Lagernyy (73°20'N., 54°22'E.).

Similarly, pilots normally board vessels approaching from the E off the Polar Station (73°16'N., 56°24'E.). In bad weather, especially with S winds, pilots may board off Zaliv Gubina (73°15'N., 56°00'E.), 6 miles W.

At the beginning of the navigational season, when Proliv Matochkin Shar is still closed or passage through it is rendered difficult by ice conditions, the pilotage service is transferred to Proliv Yugorskiy Shar (69°40'N., 60°05'E.).

Anchorage.—Anchorage may be obtained anywhere between Mys Baraniy and Mys Morzhov. This area has depths of 12 to 24m over a bottom of mud, sand, fine sand, and small stones. One of the best anchorages in this reach lies in depths of 11 to 15m, mud and sand, near the NW shore, E of Mys Lagernyy. There is no swell at this anchorage and squalls from the mountains are very rare. Good anchorage in a depth of 13m, fine sand, can also be taken close E of the bank on which Kamni Yegorova lies. Vessels using this anchorage may be inconvenienced at times by strong tidal currents and, in some years, by ice from the Kara Sea.

Caution.—The whole of Proliv Matochkin Shar between Mys Serebryanyy and Mys Stolbovoy, at the W end, and between Mys Vykhodnoy and Mys Rok, at the E end, is designated as an area temporarily prohibited to navigation. The strait appears to be closed on a semi-permanent basis and vessels should obtain clearance before attempting passage through it.

4.40 The W entrance lies between Mys Stolbovoy and Mys Serebryanyy, 4.2 miles NNE. Between Mys Serebryanyy and Mys Baraniy (73°19'N., 54°14'E.), 3.8 miles SE, the coast is very precipitous and is fronted by several drying rocks. A bight lies between a headland, located 1 mile SSE of Mys Serebryanyy, and Mys Baraniy.

A dangerous foul ground area lies 1.5 miles W of Mys Baraniy. This area has a least depth of 1.5m and breakers usually appear in it.

From Mys Baraniy to Mys Morzhov (73°25'N., 54°55'E.), on the S side, the strait trends in a general NE direction for 14 miles. A light is shown from a tower with a hut, 8m high, standing on the latter point.

Gory Litke, standing near Mys Baraniy, and Gory Lazareva (73°23'N., 54°52'E.), standing on the SE side near Mys Morzhov, both slope down steeply to the shores of the strait. Elsewhere along this reach, the mountains rise comparatively gently from the shore on either side.

Several small rivers and brooks, most of which form deltas at their mouths, flow into the strait on both sides. The low shores of the river deltas are mostly steep-to.

About 8 miles ENE of Mys Baraniy, the strait narrows to a width of only 0.4 mile.

The settlement of Lagernyy is situated near Mys Lagernyy (73°20'N., 54°22'E.), which rises on the NW side of the strait, 2.5 miles ENE of Mys Baraniy. The fairway in this reach has depths of 12 to 22m except within 1.5 miles of the W side of Mys Morzhov, where they are somewhat greater.

4.41 Ostrov Chernyy Kamen (73°17'N., 54°16'E.), a rocky islet, lies 1.8 miles SSE of Mys Baraniy. This islet is closely fringed by a reef and shoal patches, with depths of 2 to 8m, lie within 0.6 mile S and SW of it. The front light of a range is shown from a structure standing on the islet.

Mys Baraniy and the coast extending for 1.8 miles E of it are fronted by rocks which lie up to about 0.3 seaward. A shoal patch, with a depth of 8.2m, lies about 0.8 mile S of the point.

A bank, with depths of less than 5m, extends about 1 mile S from a point on the coast, 0.5 mile E of Mys Baraniy. Two large and conspicuous rocks lie on this bank, the S extremity of which is marked by a lighted buoy. The fairway leading between this bank and Ostrov Chernyy Kamen is 0.7 mile wide.

A shoal, with a least depth of 1.8m, lies with its S end located 1.5 miles WSW of a point on the SE side of the strait, 2.8 miles WSW of Mys Morzhov. The SE side of this shoal, midway between its ends, is marked by a buoy. The main fairway channel passes to the SE of this shoal, the channel lying on the NW side being suitable for light-draft vessels only. A shoal patch, with a depth of 5.5m, lies about close NW of Mys Morzhov.

4.42 From Mys Morzhov (73°25'N., 54°55'E.), the strait, with a width of 1 mile, trends ESE for 6.5 miles to Mys Zhuravleva, on the SE side, and then S for 1.8 miles to Mys Zavorotnyy (73°21'N., 55°19'E.), on the NE side; lights are shown from structures standing on both these points. Mountains, among which are glaciers, rise precipitously on both sides of this reach and attain heights of 700 to 910m. The delta of Reka Shalonik lies on the NE side of the reach,

opposite Mys Zhuravleva. This reach is much deeper than that part of the strait lying farther W. Both sides are steep-to and the fairway is clear of dangers. The bottom mostly consists of small stones with mud in the deeper parts.

From Mys Zavorotnyy, the strait trends ESE for 3 miles to Mys Gatiyeva (73°19'N., 55°27'E.), on the N side, and then E for 6 miles to Mys Snezhnyy, on the S side; lights are shown from structures standing on both these points. Between Mys Zavorotnyy and Mys Uzkiy, a point located on the N side 2.2 miles E of Mys Gatiyeva, the strait is narrowed in places to a width of less than 0.4 mile by alluvial deposits, which lie at the mouths of several streams. This is the narrowest part of the whole strait. Both shores rise steeply to the E of these narrows. This part of the strait has general depths of 20 to 60m, but depths of 14 to 22m lie off Mys Uzkiy.

Comparatively good anchorage can be taken in depths of 14 to 26m off the N side of the strait, W of the narrows, but the tidal currents are strong at times. The holding ground, although rocky, is good as the bottom is covered with a layer of mud.

From Mys Snezhnyy, the strait tends in a general SE direction for 6.5 miles to Mys Poperechnyy, on the N side, and then E for 2.2 miles to Mys Drovyanoy, on the S side. The E entrance of the strait, located E of Mys Drovyanoy, is 5.5 miles wide and lies between Mys Rok and Mys Vykhnodny.

Between Mys Snezhnyy and Mys Drovyanoy, the SW side of the strait is indented by two coves. The smaller of these coves lies 2 miles SSE of Mys Snezhnyy. Zaliv Gubina (73°16'N., 56°00'E.), the larger cove, is entered between Mys Gubina, located 4 miles SE of Mys Snezhnyy, and a point, 1.5 miles SE. Vessels of moderate size can obtain anchorage in this cove with the range beacons, situated at the head, bearing 220°. Between the SE entrance point of this cove and Mys Drovyanoy, the shore is steep-to, but is fronted by several shallow rocks.

4.43 Mys Drovyanoy (73°14'N., 56°14'E.) is low and sandy. The W side of this point is steep-to and a bank, with depths of less than 11m, extends up to about 0.3 mile seaward from its E side. An accumulation of driftwood usually lies on this point.

Mys Sernyy is located 3 miles ESE of Mys Snezhnyy, on the NE side of the strait. This headland rises to Gora Sernaya, a steep and massive mountain, 660 to 817m high.

Guba Beluzh'ya, a fjord, is entered between Mys Sernyy and a point, 1.5 miles E. It extends N for 5.5 miles to a passage, only 0.2 mile wide, then widens and extends N for about 3 miles to a basin at the head. Several mountains, 610 to 700m high, rise on both sides of this fjord. Three small islets are located on a drying shingle bank which lies in the middle of the fjord, 3 miles within its entrance. A large shoal, with a least depth of 2.4m, lies in the middle of the fjord and is centered about 0.9 mile N of the northernmost islets.

Zaliv Tyulenyi (73°18'N., 56°04'E.) is entered on the E side of the fjord, 0.8 mile inside the entrance. A high waterfall is located in the NE part of this cove.

Poluostrov Chirakina, which separates the cove from the fjord, is high, steep-sided, and joined to the mainland by a low neck. A rock, with a depth of 3.9m, lies near the outer end of a spit which extends 0.3 mile S from the S extremity of this peninsula. The channel leading through the entrance of the cove is about 180m wide and has depths of 14 to 18m.

Anchorage can be obtained by small vessels in depths of 9 to 14m, mud, close inside this cove. Anchorage can also be taken in depths of 12 to 22m close S of the entrance, but clear of the spit.

Mys Poperechnyy, located 3.5 miles SSE of Mys Sernyy, is sandy, 5m high, and projects from the foot of a high cliff. Between this point and Mys Vykhnodnoy, the NE entrance point of the strait, the N side consists mostly of cliffs, 50m high. A stream, known as Reka Nochuyev, enters the strait, 4.8 miles E of Mys Poperechnyy.

Matshar Radio Station (73°16'N., 56°24'E.) and the buildings of a polar station are situated on a hill which rises on the W side of the stream. A prominent radio mast, 55m high, stands at the station. The buildings and the mast are visible from seaward only between the bearings of 304° and 326°.

4.44 Mys Vykhnodnoy (73°14'N., 56°44'E.), marked by a light, is a bluff headland, 21m high. A pillar rock stands close E of this point and several shallow rocks lie within 0.2 mile S of it. A shoal patch, with a depth of 4.6m, lies about 0.8 mile E of the point, has not been fully examined.

A tableland slopes gradually E from this headland to the Kara Sea.

Anchorage may be obtained in depths of 5.5 to 15m, slate and sand with small stones, from 300m to about 0.3 mile offshore, abreast the radio station. Because the depths increase rapidly to the S, this roadstead has limited space and is insecure in offshore winds, which are often very strong during squalls.

From a distance to the SE or E, the E entrance of Proliv Matochkin Shar appears as an inlet with a background of high mountains.

In comparison with the mountains, the coast does not appear very high, that on the N side of the entrance being the taller. From a considerable distance, Mys Vykhnodnoy is reported to be difficult to identify against the higher land.

From the NE, the entrance to the strait cannot be seen. However, its location, in clear weather, can be determined by a group of mountains which stand W of Mys Poperechnyy and Zaliv Gubina. These mountains appear to be higher than any of the others in the vicinity and the two southernmost have dome-shaped summits. A lower mountain, with a pointed peak, rises close N of these two.

Mys Vykhnodnoy usually appears as a low, black strip against the uniform S shore of the strait.

Caution.—From a distance offshore, vessels should take care not to mistake some inlet lying along the coast to the NNE of Mys Vykhnodnoy for the entrance to the strait.

The depths lying in the E approach to the strait and the entrance are irregular and soundings generally give no reliable warning of the proximity to the shore.

West Coast of Novaya Zemlya—North Part

4.45 Mys Zapasova (73°33'N., 54°24'E.) is located 13.5 miles NNE of Mys Serebryanny (73°21'N., 54°04'E.) and the coast between is mainly precipitous. It first trends NE for 2.8 miles to Mys Zavorotnyy, which is fringed by drying and above-water rocks. Between this point and Mys Mityushev, 5.2 miles NNE, the coast then recedes E to form a bay, the shore of

which is indented by two coves. Rocks and reefs fringe the coast of this bay and the coves. A reef extends for about 0.3 mile seaward from Mys Mityushev.

From Mys Mityushev, the coast trends NNE for 5.5 miles to Mys Zapasova, a headland, which is 512m high and precipitous near its summit. Mityushev Kamen, a mountainous mass, attains a height of 984m and rises E of this stretch of coast.

Banka Murmanet (73°24'N., 53°50'E.), a shoal area, has a least depth of 3.4m and is reported to lie about 3 miles WSW of Mys Rifovyy (73°25'N., 54°01'E.), the SW extremity of Ostrov Mityushev. The existence of this danger is doubtful.

Banka Taymyr, consisting of several shallow rocks, lies about 2.8 miles NW of Mys Rifovyy and breakers appear on it when there is a swell. A spit, with a depth of 2.1m, extends about 1 mile ESE from this bank.

Caution.—Icebergs, at times, have been observed aground in a position about 16 miles SW of Mys Sukhoy Nos (73°47'N., 53°44'E.).

Ostrov Mityushev (73°25'N., 54°01'E.) lies 3 miles WNW of Mys Zavorotnyy. This island is generally low, but a ridge stands in a N and S direction across it. The coasts of the island consist mainly of cliffs and, for the most part, are fringed by reefs. A conspicuous pillar rock stands near Mys Rifovyy and a ledge, with a depth of 8.8m at its outer extremity, extends about 1 mile W from the same point.

Proliv Krotova, at the SE side, and Proliv Kazakova, at the NE side, separate Ostrov Mityushev from the mainland. The fairway channels in these straits are deep and clear of known dangers.

4.46 Guba Mityushikha (73°34'N., 54°22'E.), a fjord, is entered between Mys Zapasova and Mys Ostrovnoy, a rather low point located 6 miles WNW. From the entrance, this fjord extends 20 miles in an ENE direction. About 11 miles within the entrance, the fjord is narrowed to a width of 1.2 miles by a narrow peninsula which projects NE. The inner part of the fjord consists of two basins connected by a narrow and shallow passage, which lies between two river deltas. The S side of the fjord is high and, in some places, steep.

Mys Primetnyy (73°38'N., 54°44'E.), located 7.5 miles NE of Mys Zapasova, is a dark-colored bluff which is conspicuous from the entrance of the fjord. A bight, lying S of Poluostrov Klochkovskiy (73°39'N., 54°51'E.), is shallow and should only be approached with local knowledge. Between this bight and the head of the fjord, mountains rise steeply from the shore to heights of up to 840m.

The N side of Guba Mityushikha slopes steeply down from a plateau, 305m high, to the coast, which is 46 to 90m high. Mys Poluostrovnoy, located 2.5 miles ESE of Mys Ostrovnoy, is the S extremity of a small and rather high peninsula which is joined to the mainland by a low, sandy isthmus. This peninsula appears as an island when seen from a distance to the NW.

Kamen' Murman lies in the approach to Guba Mityushikha, 3.8 miles S of Mys Ostrovnoy. This steep-to rock has a least depth of 2.7m and breaks in a heavy swell. A shoal, with a least depth of 8.8m, lies about 2.2 miles NW of the rock.

A spit, with depths of less than 4m, extends about 0.8 mile SSW from Mys Ostrovnoy. A small rock, with a least depth of

1.8m, lies about 1.5 miles SSW of Mys Poluostrovnoy and is steep-to. A bank, with depths of less than 11m, extends about 1 mile SE from a point located 1.2 miles ENE of Mys Poluostrovnoy. A reef, which is steep-to along its N side, lies in the middle of the fjord, about 3.5 miles NNE of Mys Zapasova. It breaks with even a slight swell and dries in places. A shoal patch, with a depth of 7.6m, lies about 0.5 mile SSW of this reef.

Ostrov Gagachiy (73°39'N., 54°36'E.), lying 2 miles WNW of Mys Primetnyy, is the largest of a group of islets which encumber the outer part of the fjord. This islet is steep, rocky, and surmounted by a beacon.

Anchorage can be obtained in depths of 24 to 25m, mud, about 1.5 miles NE of Mys Primetnyy. The holding ground is not as good in the shallower depths lying closer to the S shore of the fjord. The depths throughout the greater part of the fjord, with a mud bottom, are suitable for anchorage, but its outer part is exposed to W and SW winds. The bora blows from the SE in the fjord and at times reaches force 11 during squalls.

4.47 Between Mys Ostrovnoy (73°36'N., 54°06'E.) and Mys Sukhoy Nos, the coast is only slightly indented. A shallow reef, which breaks, extends up to 2 miles offshore from a point located 7.5 miles NW of Mys Ostrovnoy. Rocks, above-water and awash, fringe most of the coast extending between this reef and Mys Sukhoy Nos.

Mys Sukhoy Nos (73°47'N., 53°44'E.) is the N extremity of a low and tundra-covered peninsula. This peninsula consists of an undulating plain, which gradually decreases in height to the W, and two small hills, conspicuous from seaward, rise on its W part. The coast of the peninsula is mainly steep, being very rugged near Mys Sukhoy Nos.

Reefs fringe the point and the shores of a bight which is entered close E of it. The W and N sides of the peninsula are fronted by banks. The exact extent of these banks has not been accurately determined and vessels should not approach the W side or the N extremity of the peninsula within 6 miles.

Shoal banks, the positions of which are doubtful, lie within 27 miles WNW of Mys Sukhoy Nos and have depths of 19 to 24m. A bank, with a depth of 23.7m, lies about 26 miles N of Mys Sukhoy Nos.

Zaliv Melkiy (73°58'N., 54°41'E.) is entered between Mys Lavrova, located 13 miles NE of Mys Sukhoy Nos, and Mys Litke (73°59'N., 54°34'E.), 5 miles NE. Mys Lavrova, a conspicuous bluff, is 31m high and rises to a sharply-pointed hill. A small, but conspicuous, peninsula extends from the S side of the inlet, 5 miles ENE of this bluff. A reef, with an above-water rock at its outer end, extends about 0.4 mile S from Mys Litke.

The shores of the inlet are mostly bluff and fringed in many places by above-water and shallow rocks. The outer part has depths of 27 to 36m in the fairway channel and the inner part, lying E of the peninsula, affords anchorage in depths of 9 to 13m, mud. This roadstead is sheltered from E winds, but a heavy swell enters during W winds. Vessels entering the inlet should keep to the center of the fairway. The tidal currents at the entrance set NE at a rate of 0.5 knot and SW at a rate of 1.2 knots.

4.48 Between Mys Litke and Mys Smirnova, 13 miles NE, the coast is rocky, precipitous, and fringed by reefs which lie up to about 1.5 miles offshore. A rock, almost awash, lies 1.2 miles offshore, about 2 miles N of Mys Litke. The sea breaks over this rock even in calm weather.

Mys Smirnova, 30m high, is the N extremity of a small peninsula. A reef extends up to about 0.4 mile seaward from this point.

Guba Krestova (74°11'N., 55°12'E.) indents the coast between Mys Smirnova and Mys Prokof'yeva, 5 miles NNE. The navigable part of this bay extends about 13 miles ESE from the entrance. To the S of this part, the bay consists of a chain of connected shallow lagoons into which three rivers flow.

Several mountains rise on both sides of the bay, but they are higher and more numerous along the shores of the inner part. Gora Srednyaya, 1,220m high, rises near the NE side of the head. This mountain is the highest in the vicinity of the bay and is visible, in clear weather, from a distance of about 50 miles seaward. A conical peak, 873m high, stands 9 miles WSW of this mountain and is conspicuous. The shores of the bay are mostly steep and indented by several coves and bights. A prominent cliff, 410m high, rises 2 miles SE of Mys Smirnova.

A shallow and foul cove indents the shore between Mys Smirnova and Mys Moiseyeva (74°09'N., 55°08'E.), 2.2 miles E. A reef extends up to about 0.3 mile seaward from the latter point.

Reyd Bakan is the SE part of a bight which lies between Mys Moiseyeva and Mys Kamenny, 5.2 miles ESE. This roadstead affords anchorage in depths of 11 to 13m, fine sand and shingle, about 0.5 mile NW of a pyramid, surmounted by a cross, which stands on its SE shore. Anchorage can also be taken closer inshore in depths of 6 to 7m, ooze. Although the holding ground in the roadstead is good, winds from the NW or N render the anchorage uncomfortable.

Ostrov Vrangelya (74°10'N., 55°20'E.), lying 2.2 miles E of Mys Moiseyeva, is the largest of five islets located within Guba Krestovaya. Rocks fringe the shores of this islet and extend up to about 0.2 mile seaward from its E extremity. A beacon stands near the center of this islet.

A drying patch, the position of which is doubtful, is reported to lie about 0.7 mile NNE of the center of Ostrov Vrangelya.

4.49 Between Mys Prokof'yeva (74°14'N., 55°08'E.) and the S entrance to Guba Yuzhnaya Sul'meneva (74°19'N., 55°18'E.), 3 miles N, the coast forms two small bights. Reefs extend up to about 1 mile seaward from this stretch of coast and, in clear weather, vessels should keep at least 2 miles offshore. During thick weather, vessels are advised to stay in depths of over 55m.

Guba Yuzhnaya Sul'meneva, which extends 9 miles ESE, is entered between Mys Ivana Malyesheva and Mys Pavla Zaytseva, 4 miles N. This bay is separated from Guba Krestovaya by a narrow peninsula on which stand several hills, up to 61m high. An extensive glacier, which is visible from a considerable distance to the SW, descends to the N side of the bay. Another glacier descends to the head of the bay. The outer part of the bay has depths of 54 to 90m. A bight, which indents the S side of the bay close within the entrance, affords anchorage in depths of 16 to 22m, ooze. However, this

roadstead is exposed to winds and sea from the NW. The bay is practically unsurveyed and great care is required when entering.

Between the N entrance point of Guba Yuzhnaya Sul'meneva and Mys Stepovogo, 4 miles N, the coast consists of cliffs, up to 20m high, and is uniform in appearance. The known dangers lying off this stretch of the coast are located within 0.5 mile of the shore. This stretch of the coast forms the W side of the peninsula which separates Guba Yuzhnaya Sul'meneva from Guba Severnaya Sul'meneva, the next bay to the N.

Guba Severnaya Sul'meneva (74°29'N., 55°33'E.), extending 10 miles E, is entered between Mys Stepovogo and Mys Chernitskogo, 7 miles ENE. Foul ground, which breaks, fronts both of these entrance points and extends up to 1 mile seaward in places to the N of Mys Stepovogo. The S side of the bay and the outer part of the N side are steep and little indented.

About 6 miles E of Mys Chernitskogo, the N side trends S and is indented by two coves. Beyond these coves, the N shore trends E and is indented by a cove, lying 1.5 miles from the head of the bay, which recedes N for 0.8 mile. Foul ground, which breaks, extends from the W side of the entrance to this cove and a reef extends S from the E entrance point.

Two glaciers descend to the head of the bay and another glacier approaches the N shore, but does not reach the water. Ostrov Chernitskogo is a small, but conspicuous, islet lying close off Mys Chernitskogo. This islet has yellowish cliffs and foul ground extends for a considerable distance from it. Shallow and above-water rocks lie on the E side of the outer part of the bay.

4.50 Mys Shantsa (74°40'N., 55°50'E.) is located 9.5 miles N of Mys Chernitskogo and the coast between consists of steep cliffs. Foul ground, on which the sea breaks, extends a considerable distance seaward from the foot of these cliffs. Level tundra backs this stretch of the shore.

Mys Ptichiy, a bold point, is located about midway between Mys Chernitskogo and Mys Shantsa. This point, which has a large sea-bird rookery on it, rises to a height of 300m, about 2 miles inland.

Guba Mashigina (74°44'N., 55°48'E.) indents the coast between Mys Shantsa and Mys Borisova, 6 miles N. This bay extends for 18 miles in a general E direction and consists of a wide outer part, a central part, and an inner part. The central part is connected to the inner part by a channel, 0.2 mile wide. The fairway channels of the outer and central parts have depths of over 90m, but these depths decrease to 36m at the inner end of the central part. The fairway connecting the central and inner parts has depths of 3.7 to 13m. The shores of the outer and central parts of the bay should be approached with caution as they are fringed by numerous islets and rocks may be present in their vicinity. Two bights, which are encumbered by several islets, indent the S side of the bay.

On the N side of the outer part of the bay, several groups of rocky islets lie up to 0.8 mile seaward of a number of points, which separate slight indentations along the shore. The central part of the bay has glaciers on either side and another glacier descends to a broad sandy beach at the NE corner of the inner part of the bay.

4.51 From Mys Borisova (74°47'N., 55°51'E.), the coast trends 9 miles NE to the entrance of Guba Katernaya. It is rocky, bluff, and fronted by reefs in places. Ostrov Borisova, a low islet, lies 0.8 mile NW of Mys Borisova. Reefs fringe this islet and extend about 0.4 mile seaward from the mainland abreast it.

Poluostrov Admiralteystva (75°04'N., 55°48'E.) projects 12 miles from the general trend of the coast. Mys Spidill, the SW extremity of this peninsula, is located 10 miles N of Mys Borisova. The peninsula is low, with a slightly hilly surface, and is joined by a broad, low isthmus to the mainland. Mountains, up to 457m high, form a coastal range and a glacier descends from them to this isthmus. The shores of the peninsula are fronted by numerous reefs and vessels should keep well clear. Although low, Poluostrov Admiralteystva is the most conspicuous feature along the W side of Novaya Zemlya.

Zaliv Murman (74°53'N., 55°52'E.), with three bays lying at its head, is entered between Mys Borisova and Mys Spidill, 11 miles N.

Guba Katernaya, the southernmost of the bays, extends 5 miles NE and is about 1 mile wide at its entrance. The SE entrance point of this bay is surmounted by several low cairns, is bluff, and is fronted by a number of above-water rocks. Below and above-water rocks front the SE side of the NW entrance point. The settlement of Smidovicha is situated on the N shore of this bay. Anchorage may be taken in depths of 16 to 18m, ooze, in the middle of the fairway channel and close inside the bay entrance. Small vessels can anchor in a depth of 8m, soft mud, near the head of the bay. Winds from the SW or W usually render these roadsteads untenable.

Bukhta Sredniy, the bay lying close N of Guba Katernaya, has not been surveyed and its entrance is obstructed by rocks.

Guba Sosnovskogo, the northernmost bay within Zaliv Murman, lies 5.5 miles N of Guba Katernaya. This bay extends 4 miles N and, although several rocks lie in the entrance, is wide enough for large vessels to enter. It provides a spacious anchorage roadstead which is sheltered from all but S and SW winds.

The W side of Poluostrov Admiralteystva extends from Mys Spidill to Mys Nikolaya, 14 miles NNE, and is little indented. A shoal, with a depth of 12m, lies about 9.5 miles W of Mys Spidill.

Caution.—A local magnetic anomaly has been reported to exist in the Barents Sea about 210 miles NW of Poluostrov Admiralteystva.

4.52 Mys Nikolaya (75°11'N., 56°00'E.) is the N extremity of Poluostrov Admiralteystva. Two small bays, with rocks fronting their entrance points, lie close E of this point.

The coast between Mys Nikolaya and Mys Karlsena, the N extremity of Novaya Zemlya, extends 204 miles ENE and is irregular and indented. Several islands lie off the central part of this stretch of coast. The interior of this part of Novaya Zemlya is almost entirely covered with ice, above which, mountain peaks rise. Numerous glaciers descend to the sea and, in some places, these are better landmarks than the points of land which are mostly inconspicuous against the uniform appearance of the coast.

Between Poluostrov Pankrat'yeva and Mys Karlsena, the coast has been only very superficially surveyed. A settlement and a polar station are situated on the shores of Zaliv Russkaya Gavan', 87 miles SW of Mys Karlsena.

Off-lying Dangers.—A shoal patch, with a depth of 8.2m, lies about 2 miles N of the outermost island of Ostrova Krestovyye (76°03'N., 59°04'E.).

A dome-shaped rock, 2m high, has been reported (1934) to lie about 8 miles NNW of the SW extremity of Ostrov Pankrat'yeva (76°06'N., 60°00'E.). Another rock, with a depth of less than 1.8m, lies about 2.5 miles NNW of the same extremity. The positions of these rocks are doubtful.

Ostrova Galfstrim (76°25'N., 64°09'E.), consisting of two low and inconspicuous islets 1 mile apart, lies 5 miles WNW of Mys Obrucheva (76°22'N., 64°32'E.).

A group of three islands lies about 8 miles offshore, 19 miles W of Mys Obrucheva.

Several islands, islets, and dangers lie nearer to the coast and are described with the related features.

Caution.—Throughout the navigational season, vessels navigating off the coast between Ostrova Gorbovy (75°56'N., 59°09'E.) and Mys Karlsena may encounter icebergs from the various glaciers.

The depths off this stretch of coast are generally irregular.

4.53 Guba Glazova (75°13'N., 56°30'E.), an extensive bay open to the N, lies between the E side of Poluostrov Admiralteystva, a peninsula, and the coast. The shore of the peninsula is rocky, bluff, and decreases in height towards the head of the bay. The bay shoals rapidly toward its head, which is fringed by a sandy beach. Two glaciers, with hills between them, descend to the SE side of the bay.

Mys Lava, a headland, is located 12 miles ENE of Mys Nikolaya and is fringed by numerous below and above-water rocks.

Mys Maslennikova (75°22'N., 57°04'E.), a low point, is located 8.5 miles NE of Mys Lava and is fronted by a reef, which is formed by sharp-pointed above-water rocks. The intervening coast, which is low and bluff, is strewn with quantities of driftwood, but has no noticeable indentations. Several rocks, some of which are awash, front the coast, about 3.5 miles SW of this point.

Zaliv Nordenshel'da (75°25'N., 57°16'E.), a large bay, indents the coast between Mys Maslennikova and a point, 10 miles NE. Mountains rise close inland on all sides of this bay. A glacier, with a face 4 or 5 miles wide, descends to the S part of the E shore of the bay. Two coves lie close N of this glacier. The northernmost and larger cove affords anchorage in depths of 12 to 18m, mud. Several cairns, with poles, stand on the N and S sides of this cove. The bay is very deep in the middle and shoals gradually to the coves at the head.

4.54 Mys Chernyy (75°30'N., 57°40'E.), a prominent headland, is located 4 miles N of the NE entrance point of Zaliv Nordenshel'da. It can be easily identified by a mountain, 635m high, standing 2 miles ESE of it. The coast between Zaliv Nordenshel'da and this headland is fronted by below and above-water rocks.

It was reported (1910) that a small cross surmounts a steep hill which rises close S of this headland.

From Mys Chernyy, the coast trends NE for 6 miles to Mys Pospelova.

Zaliv Vil'kitskogo (75°36'N., 57°59'E.) is entered between Mys Pospelova and Mys Solungskogo, 3 miles N, and extends about 5 miles in an E direction. The shores of this bay consist of steep cliffs fronted by below and above-water rocks. A glacier, about 2.5 miles wide, descends to its E side.

From Mys Solungskogo to the entrance of Guba Arkhangel'skaya, 23 miles NE, several bays indent the coast.

Between Mys Solungskogo and Mys Lednikov, 13 miles NE, the coast recedes to the E and forms a bay. About midway along this stretch of coast, a bank, with a least depth of 4.2m, extends nearly 4 miles seaward. Several bights indent the shores of the bay and numerous islets front its S side. The precipitous face of a large glacier extends for 3.5 miles along the NE side of this bay.

Mys Lednikov (75°46'N., 58°36'E.), a low and narrow point, is located at the end of a chain of low, rounded hills. Ostrov Vil'gel'ma, lying 2.5 miles N of the point, consists of a group of low, flat rocks divided by a fissure. The coast extending to the N of the point is indented by a small bight with a glacier at its head. The coast extending for 6 miles on the N side of this bight consists of continuous cliffs, which are covered with sea-bird rookeries. A conspicuous waterfall, which flows over the cliffs on the mainland coast between Ostrov Vil'gel'ma and the entrance to Guba Arkhangel'skaya, is visible, in clear weather, from a distance of about 10 miles offshore.

4.55 Ostrova Gorbovy (75°56'N., 59°10'E.), consisting of a group of islands and islets, lies in and off the entrance to Guba Arkhangel'skaya. From a distance, these islands and islets appear to merge with the mainland. Ostrov Berkha, the largest and outermost island of the group, lies with its SW extremity located 10.5 miles NNE of Mys Lednikov. This island is 183m high and a conspicuous cross stands on its NE extremity. Two small islets and several shallow rocks lie close off its SW end and a number of dangerous reefs lie within 2.5 miles of its NE end.

Caution.—Only vessels with local knowledge should attempt to approach Guba Arkhangel'skaya from this area or use the passages leading between the islands and islets of Ostrova Gorbovy.

Guba Arkhangel'skaya (75°51'N., 59°08'E.) is backed by hills, up to 220m high, on its SE side and a large glacier, 2.5 miles wide, descends to the water on its E side. Several other smaller glaciers also descend to the shores of this bay. Depths of 73 to 82m lie in the middle of the S part of the bay, but vessels can obtain anchorage in depths of 9 to 13m closer inshore. The roadstead is open to W winds and boras (vstok) frequently blow strongly in this area.

Ostrova Krestovyye (76°04'N., 59°12'E.) consists of three islands which lie N and NE of Ostrova Gorbovy. Ostrov Severnyy Krestovyye, the outermost island, lies 5 miles N of the NE extremity of Ostrov Berkha. This conspicuous island is low, flat, and rocky. Below and above-water rocks front the shores of the island and a detached shoal, with a depth of 8.2m, lies about 4 miles NE of the NE extremity. The channel lying

between this island and Ostrov Berkha is apparently foul and should not be attempted.

4.56 Poluostrov Pankrat'yeva (Pankrat'eva) (76°04'N., 60°28'E.) lies with its W extremity located 12 miles ENE of the NE extremity of Ostrov Berkha. This peninsula is joined to the mainland by a low, narrow isthmus. Three large glaciers descend to the coast between Guba Arkhangel'skaya and the isthmus.

Zaliv Sedova lies between the SSW side of the peninsula and the mainland. Two crosses stand on the N shore of this bay. A shoal, with a least depth of 0.9m, lies in the approach to the bay, about 3 miles W of the N entrance point.

Ostrov Pankrat'yeva (Pankrat'eva) (76°06'N., 60°00'E.) is separated from the NW side of Poluostrov Pankrat'yeva by a narrow strait. The W end of this island is fronted by several above-water rocks. A shoal, with a least depth of 0.9m, lies in the strait, about 0.4 mile from the island. Another rock, with a depth of less than 1.8m, lies about 4.5 miles NW of the center of the island, but its position is doubtful. A pinnacle rock, 2m high, lies about 8 miles NNW of the SW extremity of the island and its position doubtful.

The island is the former location of a consol navigation beacon.

Zaliv Borzova (76°05'N., 60°53'E.) is an extensive bay lying on the SE side of Poluostrov Pankrat'yeva. It is entered between Mys Proshchaniya, the E extremity of the peninsula, and Mys Pavlova, 2.5 miles NE. Glaciers descend to the water on the E and SE sides of this bay.

Mys Litke (76°16'N., 61°03'E.), a low and rounded point, is located 8 miles N of Mys Pavlova and is inconspicuous. The intervening coast is indented by several small bights. A rocky ledge projects SW from Mys Zakharova, which is located about midway along this stretch of the coast.

4.57 Ostrova Barentsa (76°18'N., 61°11'E.) consists of two narrow islands and lies close ENE of Mys Litke. The islands are separated from the coast by a channel, 2 miles wide. The W and smaller island has several conspicuous hummocks, which rise from a flat plain. A small cairn surmounts the central hummock. Reefs fringe this island and a rock, awash, lies about 2 miles WSW of its W end. Breakers have been reported to occur about 1.5 miles seaward of the middle part of this island.

The channel lying between the two islands and the strait leading between the E island and the mainland are shallow. The strait leading between the W island and the mainland affords good anchorage in depths of 18 to 26m, mud, but can only be entered from the W.

Vessels entering this strait should keep closer to the islands than to the mainland as several rocks lie off the S side of the entrance. When approaching the anchorage from the N, vessels should give the islands a wide berth in order to avoid the reefs. Local knowledge is advised.

From Mys Litke to Mys Makarova, the W entrance point of Zaliv Russkaya Gavan, the coast trends in a general E direction for 19 miles. Mys Nassau, 9 miles ENE of Mys Litke, slopes gradually to the sea, appearing from E as a low spit. A 12.8m shoal patch, the position of which is doubtful, lies about 9.8 miles NNW of Mys Nassau. For several miles to the W of this

point, the coast consists of cliffs 20m high. Inland, the ground rises gradually at first, then forms terraces on the slopes of the coastal hills.

4.58 Zaliv Russkaya Gavan' (76°15'N., 62°30'E.), which extends 6 miles S, is entered between Mys Makarova and Mys Utesheniya, 5 miles E. The W side of this inlet, up to 1.8 miles S of the W entrance point, is fringed by rocks which extend up to about 0.3 mile offshore. A narrow shoal, with a least depth of 5.8m, extends about 0.5 mile WSW and lies with its E end located about 0.3 mile N of Mys Utesheniya. The entrance is deep and unobstructed by known dangers, except for those described above. A peninsula projects 1.5 miles NNW from the SE side of the inlet and divides the inner part into two bays. The W bay is unsuitable for anchorage as it is not sheltered and its S part is usually full of ice. The E bay affords anchorage, sheltered from all winds, and has depths of 24 to 100m at more than 0.2 mile from the shore. A settlement stands at the head of this bay.

From the N, both Mys Makarova and Mys Utesheniya appear to rise to the hills behind them. From the E, Mys Makarova, which is fronted by a detached rock, appears bold, but not high.

When approaching the inlet, the most conspicuous landmarks are a hill, 253m high, which rises between two glaciers, 5.5 miles S of Mys Utesheniya; Ostrov Bogatyy (76°15'N., 62°35'E.), high with a flat surface, which lies within the inlet; and two glaciers which descend to the S part of the inlet.

The coast extending to the E of Zaliv Russkaya Gavan' has a very uniform appearance. It is reported that the various glaciers, which descend to the sea along this stretch, are better landmarks than the points of land, which are generally inconspicuous.

Zaliv Chayeva (76°14'N., 62°50'E.) lies E of Zaliv Russkaya Gavan' and is separated from it by a shoulder of land, of which Mys Utesheniya is the N extremity. Ostrov Babushkina lies 3 miles SE of Mys Utesheniya and off the entrance to Bukhta Chukhnovskogo, which forms the SE part of Zaliv Chayeva. A large cairn stands on this islet. Numerous dangers lie in the approach to Zaliv Chayeva and vessels should not attempt to enter this inlet without local knowledge.

Mys Sakharova (76°19'N., 64°00'E.), surmounted by a conspicuous cairn, is located 15 miles ENE of Zaliv Chayeva and is fronted by two reefs. The coast between is little indented, but several glaciers descend to the shore. Three islets lie close W of this point. The area in the vicinity of the point has not been fully surveyed and should be avoided. A group, consisting of three islets, lies about 11 miles WNW of the point.

Mys Obrucheve (76°22'N., 64°33'E.), located 8.5 miles ENE of Mys Sakharova, is the N extremity of a small peninsula. A cairn stands on the point and several hills, up to 113m high, stand close S of the peninsula.

4.59 Gavan' Maka (76°22'N., 64°38'E.), is entered between Mys Obrucheve and Mys Sepuchiy, 2.5 miles ENE. Two above-water rocks lie in the NE entrance of this cove and the face of Lednik Brounova, a glacier, extends about 1 mile along its SE side.

The coast trends NNE for 2 miles from the E entrance point to Mys Morennyy. This latter point consists of a steep, hilly projection and a cairn stands 0.8 mile inland from it.

An unexamined shoal has been reported (1940) to lie about 2.5 miles W of Mys Morennyy.

The coast, extending for 2 miles NE of Mys Morennyy, consists of the face of Lednik Anuchin, a large glacier. Beyond this glacier, the coast continues NE for 2 miles to Mys Vize. In the vicinity of Mys Vize, the coast is comparatively low, but, 2.8 miles S of this point, the mountains rise to heights of 500 to 610m.

Numerous below-water and drying rocks lie within 1.8 miles of Mys Vize and a bank, with a depth of 27m, lies about 13 miles NNW of the point.

Mys Balasheva (76°29'N., 65°25'E.) is located 8 miles NE of Mys Vize and the coast between forms a bight, which is open to the NW. From a small point, located 2 miles E of Mys Vize, the face of Lednik Vize, a large glacier, extends E for about 2.3 miles. This glacier is separated from Lednik Karbasnikova (76°28'N., 65°24'E.), another glacier, by a spur which descends to the sea from a mountain, 610m high, standing 2.5 miles inland. Lednik Karbasnikova is an extensive glacier and its face is about 2.5 miles wide. From this glacier, the coast, which is gently sloping, trends N to Mys Balasheva. This point is surmounted by a cairn and several islets lie 0.6 mile W of it. Above-water rocks lie about 2 miles W and 2 miles NNW of the cairn.

Mys Pinegina (76°23'N., 65°34'E.), a conspicuous headland, is located 2 miles NE of Mys Balasheva and surmounted by a cairn. It is steep and fronted by several islets on the W side. A reef fronts the N side of this headland and a shoal patch, with a depth of 7m, lies about 4 miles N of it.

Zaliv Inostrantseva (76°35'N., 65°44'E.), which is open to the NW, recedes S between Mys Pinegina and Mys Kushakova, 9 miles NNE. The S side of this bay is indented by a cove and two glaciers descend to the sea and entirely cover its E side. These glaciers, which join about 5 miles inland as they approach the coast, form a continuous seaward face about 20 miles long. Icebergs, calving from these glaciers, make anchorage in this bay very precarious.

The coast between Mys Kushakova and Mys Karlsena (77°00'N., 67°40'E.), the N extremity of Novaya Zemlya, has not been sufficiently surveyed to provide any reliable information concerning it.

It has been reported that Mys Medvezhiy, located 7 miles N of Mys Kushakova, and Mys Malyy, located 4 miles farther NE, are both conspicuous promontories.

East Coast of Novaya Zemlya

4.60 Between Mys Men'shikova, the SE extremity of Novaya Zemlya, and Mys Rok, the SE entrance point of Proliv Matochkin Shar, 148 miles N, the E coast of Novaya Zemlya trends successively NW, N, and NNE. From Mys Vykhodnoy, the NE entrance point of Proliv Matochkin Shar, the coast trends in a general NE direction for 278 miles to Mys Sporyy Navolok. Between the latter headland and Mys Zhelaniya, 45 miles N, it trends successively NNE, N, and NNW. From Mys Zhelaniya, the coast trends in a general WNW direction for 13 miles to Mys Karlsena.

Except for its central part, the E coast of Novaya Zemlya is fringed by fewer islands and comparatively less indented than the S or W coasts.

From the S end of Novaya Zemlya, the elevation of the land backing the E coast increases gradually towards Proliv Matochkin Shar, then decreases to the N. Glaciers descend to the shores of several of the inlets which indent the E coast of the N island. Between the parallels of 75°N and 76°N, the seaward faces of a number of glaciers constitute conspicuous portions of the coast.

The depths lying off almost the entire E coast of the N island are too great for anchoring. However, some of the coastal indentations of both islands afford sheltered anchorage.

Caution.—The charting of the greater part of this coast is based on rough running surveys and reconnaissance. Offshore soundings are few and some extensive sea areas adjacent to the coast are wholly unexamined. Vessels should proceed with great caution when approaching this coast.

The possibility of a vessel encountering masses of ice off the E coast of Novaya Zemlya, at any time during the navigation season, should not be disregarded.

4.61 Between Mys Men'shikova and Zaliv Abrosimova, 83 miles NNW, the coast is only slightly indented. Several rivers, their mouths accessible only to small craft, intersect this stretch of coast. Several bays and inlets lie N of Zaliv Abrosimova and become larger as the coast nears the entrance of Proliv Matochkin Shar, the strait which divides Novaya Zemlya into two parts. Most of these indentations have had little or no examination and should not be entered without local knowledge. With the exception of a polar station, standing within Zaliv Abrosimova, and occasional log houses and huts used by hunters and fishermen, there are no settlements reported to be situated on the E coast of Novaya Zemlya to the S of Proliv Matochkin Shar.

Between Mys Men'shikova and Zaliv Abrosimova (71°56'N., 55°30'E.), depths of 20 to 40m lie about 3 miles offshore. There are no known off-lying dangers except for a shoal, with a depth of 5.9m, which lies about 5 miles E of Mys Ratmanova.

Caution.—Several areas lying off the coast, between Mys Kurochkina (71°57'N., 55°29'E.) and Zaliv Litke (72°25'N., 55°32'E.) and between Zaliv Shuberta and Zaliv Brandta, have not been examined and care is necessary when navigating in or near them.

Mys Ratmanova (71°07'N., 56°18'E.) is located 35 miles N of Mys Men'shikova. The E coast of the S island of Novaya Zemlya, between these points, has no indentations of navigational importance.

Mys Perovskogo (70°47'N., 57°25'E.), a rocky headland, is located 7 miles NW of Mys Men'shikova. The intervening coast is 12m high and the land rises gently from it to the hills inland.

Between Mys Perovskogo and Mys Berkha, 13 miles NW, the coast recedes slightly to form two bights, the shores of which are low, flat, and sandy.

The mouth of the Reka Kumzha lies 10 miles NW of Mys Perovskogo. It was reported that a conspicuous cross and a hut stand near the entrance of this river.

4.62 From Mys Berkha, the coast trends NW for 15 miles to Mys Ratmanova. This stretch of shore consists mainly of sandy beaches with low cliffs in places. Small rivers flow into the sea close N and S of this point.

The mouth of the Reka Kolodkina lies 6 miles NW of Mys Berkha and it has been reported that there usually is a large amount of driftwood near the river entrance. Depths of 2.7m lie over the bar and 3.7m within the fairway channel. A small sandbank lies close to the S side of the river entrance. The river flows between high banks, except at the S side of the entrance where the bank is low. Small craft with local knowledge can obtain good anchorage off this low section of the bank.

Ratmanov Beacon (71°03'N., 56°29'E.), 6.4m high, stands on high ground, 2.5 miles SE of Mys Ratmanova.

Between Mys Ratmanova and the E entrance point of Zaliv Abrosimova, 50 miles NNW, three small rivers enter the sea. The mouths of the Reka Kazakova and the Reka Butakova lie 5 and 11 miles, respectively, NNW of Mys Ratmanova. The mouth of the Reka Savina lies 16 miles NNW of the mouth of the Reka Butakova.

The Reka Kazakova (Kozakova) has a depth of 2.1m in its entrance, which is 33m wide. A hut is reported to stand near the mouth of this river. Hills, up to 55m high, stand to the N of the river.

The Reka Savina has an entrance about 0.2 mile wide and a depth of 2.7m over the bar. A hut is reported to stand near this river mouth, which is difficult to identify. Shoal flats fringe both the entrance points and numerous sandy banks lie in the delta. The river narrows about 0.5 mile within its mouth and flows between vertical banks. The currents in the river are strong.

4.63 Savina Beacon (71°34'N., 55°41'E.), formed by a pyramid, stands 3 miles N of the mouth of the Reka Savina.

Between the mouth of the Reka Savina and Zaliv Abrosimova, 26 miles N, several small points, 18 to 27m high, are located at intervals of about 4 miles. Most of these points are fringed by rocks, which are marked by breakers. The coast between the points is low.

Zaliv Abrosimova (71°56'N., 55°30'E.), a bay, extends 2.5 miles W and its shores are mostly low. The undulating plain, which characterizes the S part of Novaya Zemlya, changes close S of this bay to moderately high and terraced hills.

The bay entrance is 0.5 mile wide and two islets lie close S of Mys Kurochkina, the N entrance point. The fairway channel leading between these islets and the S entrance point has depths of 10 to 20m. A shoal, with a least depth of 3m, lies about 0.8 mile SSE of Mys Kurochkina and breakers have been reported to occur about 0.5 mile S of the entrance. Depths of 14 to 18m lie in the central part of the bay, but the W part is encumbered with deposits from the river, which flows into the head. A beacon, formed by a framework tower, stands on the S entrance point of Zaliv Abrosimova and a polar station is situated in the bay.

Small vessels can obtain anchorage in a depth of 15m, mud and sand, about 0.3 mile off the N side of the bay and 1.2 miles W of Mys Kurochkina. A swell enters the bay with winds from seaward, but landing can be effected within a small cove on the S side. Large deposits of driftwood are reported to accumulate along the S shore of this bay.

Caution.—Zaliv Abrosimova and the adjacent sea area have been only superficially examined. The bay should not be entered without local knowledge.

4.64 Between Zaliv Abrosimova and Zaliv Litke, 30 miles N, the coast is indented by several coves and bights, none of which have been surveyed. In the vicinity of Mys Yershova, located 8 miles N of Mys Kurochkina, the coastal hills are 90 to 120m high, but they decrease in height farther to the NNE.

The coast between the N entrance point of Zaliv Abrosimova and Zaliv Litke is very uniform in appearance. It consists mainly of cliffs, interspersed in places by shingle beaches on which there is usually great quantities of driftwood. The land rises gradually from the coast to heights of 60 to 80m, at a distance of 1.5 miles inland, with several conspicuous isolated summits, up to 150m high.

Numerous surveying marks, consisting of cairns with central poles, are reported to stand about 3 to 4 miles inland.

Mys Vishnevskogo (72°14'N., 55°37'E.), located 11 miles N of Mys Yershova, is the extremity of a conspicuous, bold, and narrow promontory. Several rocks have been reported to lie about 0.5 mile offshore, 3 miles S of this point. A beacon, 12m high, stands 2 miles WNW of the point.

The coast recedes about 5 miles NNW of Mys Vishnevskogo and forms a large bay, which is unsurveyed.

Ostrov Mekhregina (72°18'N., 55°29'E.), a flat-topped and steep-sided islet, lies in the entrance of this bay, 6 miles NW of Mys Vishnevskogo. It is 20m high and conspicuous from seaward.

Zaliv Litke (72°25'N., 55°32'E.) is entered close S of a point located 8 miles N of Ostrov Mekhregina. This cove, which has an entrance 1.2 miles wide, indents the land for a considerable distance in a W direction. The shores of the cove are backed by hills, up to 180 high.

Two islets, the easternmost of which is known as Ostrov Fedora, lie off the entrance to the cove. A reef extends N from these islets and terminates in a group of above-water rocks. A beacon, formed by a framework tower 12m high, stands on the high S part of Ostrov Fedora. A rocky shoal, steep to on its E side, lies about 0.5 mile E of Ostrov Fedora.

The cove has depths of 9 to 62m, but is shallow near its head, where a river empties through a delta. A shoal, with a least depth of 3.4m, lies near the S entrance point of the cove. Tidal currents in the cove have been observed to set E and W at rates of about 0.5 knot during calm weather. The cove is sheltered and provides good holding ground. Small vessels with local knowledge can anchor close off the S shore of the cove, close within the S entrance point. Such vessels should pass to the S of the islets lying in the entrance.

4.65 Zaliv Stepovogo (72°29'N., 55°36'E.) is a fjord-like inlet which indents the coast 4 miles N of Zaliv Litke. This inlet has not been examined and should be entered only with local knowledge and great caution. From the entrance, which is 1 mile wide, the outer part of this inlet trends WNW for about 3 miles to the head. An inner arm branches off the N side of the inlet, 2 miles inside the entrance, and extends WNW for 4.5 miles. The shores of the inlet are steep in most places. A conspicuous hill, 213m high, rises N of this inlet and a cairn stands on high ground near the head. The middle part of the

outer entrance of the inlet was reported to have a depth of 37m. Islets lie 0.2 mile S and 0.4 mile E of the N entrance point. A rocky shoal, almost awash, lies about 1.5 miles E of the S entrance point.

Between Zaliv Stepovogo and Mys Galla, 10 miles NNE, the coast is irregular, but has no indentations accessible to vessels other than small craft. Between the N entrance point of Zaliv Stepovogo and a small bay, 3 miles NNE, cliffs, up to 46m high, rise from the sea. Two rocks lie 0.5 mile NE of Mys Galla, which forms the outer end of a precipitous headland. A framework beacon, 12m high, stands 2 miles W of this point.

4.66 Zaliv Shuberta (72°44'N., 56°02'E.), a fjord-like inlet, has high and generally precipitous shores and indents the coast between Mys Yushkova, located 6 miles NNW of Mys Galla, and Mys Rakhmanina, 3.5 miles NE. From a distance of 8 to 10 miles E, Mys Yushkova appears as a conspicuous landmark because of its bluff outline and dark color. The coast for several miles on either side of the inlet entrance is yellowish in color and rises from the sea in terraces. High mountains, which are usually snow-covered, can be observed inland, beyond the coastal hills. A prominent surveying mark, in the form of a small pyramid, stands on Mys Yushkova and several others, consisting of cairns with central poles, are situated on the shores of the inlet.

Mys Yushkova is fringed by rocks and a small rocky islet, from which a sunken ledge extends about 0.5 mile SW, lies close off Mys Rakhmanina. About 5 miles WNW of Mys Yushkova, two spits project from the sides of the inlet and narrow the width to about 0.5 mile. A passage lies between these spits and leads to the inner part of the inlet, which is divided into two coves by a peninsula. Streams flow through broad valleys into both these coves and form considerable deltas.

The S side of the inlet is steep, terraced, and rises to a tableland, 180 to 240m high. The N side is not as steep. Mys Zhdanko, 100m high, is located at the head of the inlet and a mountain, 970m high, stands close SW of it.

Depths of 50 to 80m were reported (1936) to lie in the middle of the outer part of the inlet. However, an isolated depth of 16m was reported to lie about 1.5 miles N of Mys Yushkova and lesser depths may also be located in this vicinity. In the inner part of the inlet, the depths were reported to be irregular and varied from 40 to 115m. To the E of the narrows, the depths were also reported to be irregular and varied from 30 to 60m.

4.67 Between Mys Rakhmanina and Zaliv Brandta, 12 miles NNE, the coast consists of mostly continuous cliffs, 20 to 30m high. From these cliffs, the land rises gradually to hills standing about 2 miles inland. A pyramidal surveying mark stands on Mys Shuberta, a headland, which is located 2 miles ENE of Mys Rakhmanina. From this headland, the coast trends NNE for 4.5 miles to Mys Kutuzova and then N for 5.5 miles to the S entrance point of Zaliv Brandta.

Caution.—The stretch of coast between Mys Rakhmanina and Zaliv Brandta should not be approached within 2 miles as the sea area adjacent to the shore has not been surveyed.

Zaliv Brandta (72°58'N., 56°16'E.) extends W for 11 miles from its entrance, which is 2.5 miles wide and rocks, which break, fringe both its entrance points. A shallow rocky patch, which breaks in a swell, lies near the middle of this inlet, 4.5 miles W of the entrance. Ostrov Khabarova lies 0.5 mile NE of the S entrance point. A beacon, 5m high, stands about 2.5 miles NNE of the N entrance point.

Anchorage can be obtained, by vessels of moderate size, within a small cove lying on the N side of the inlet, 7.5 miles from the entrance. This roadstead is sheltered from the E by a low spit. The cove has depths of 8 to 12m, decreasing to 3m near its head, over a bottom of clay.

Zaliv Klokova (73°03'N., 56°24'E.) indents the coast between Mys Brandta, located 3.2 miles NE of the N entrance point of Zaliv Brandta, and Mys Klokova, 5.2 miles NNE. This inlet extends W for 10.5 miles from the middle of its entrance. Rocks extend up to 2.3 miles NE from Mys Brandta and several shoals encumber the entrance of this inlet. Vessels should not attempt to enter without local knowledge.

Proliv Matochkin Shar, which is entered from the Kara Sea between Mys Rok, located 3 miles N of Mys Klokova, and Mys Vykhodnoy, 5.5 miles NE, is described with the W coast of Novaya Zemlya in paragraph 4.38.

4.68 The coast between Mys Vykhodnoy and Mys Dal'niy, 126 miles NNE, is indented by numerous bays and inlets. Several of these inlets are fjord-like in character and extend considerable distances inland. Because of the deep water found in most of these indentations, the areas available for anchorage are restricted. From the high mountains standing in the vicinity of Proliv Matochkin Shar, the land within the coast decreases in height to the N. Glaciers descend from the icecap, which covers much of the island, to the shores of several of the inlets.

Ice.—Along the coast between Mys Pyat' Pal'tsev and Ostrov Pakhtusova, observations made during the navigation season show the presence of ice to be very irregular. In some years, no ice was observed off this stretch during August, September, or the first part of October. However, in other years, drift ice was seen throughout the navigation season. Off this part of the coast, the sea is usually clear of ice in late July or early August. It freezes over about the middle of October. In those inlets to which glaciers descend, ice, in the form of small icebergs, may be found at any time. The icebergs, which attain heights of up to 12m above the water, drift out to sea and may be encountered near the coast between Mys Dal'niy (75°01'N., 60°43'E.) and Zaliv Medvezhiy (75°18'N., 61°51'E.). They are sometimes seen at a considerable distance offshore.

Tides—Currents.—Between Mys Pyat' Pal'tsev (73°59'N., 58°14'E.) and Ostrov Pakhtusova (74°24'N., 59°06'E.), a current setting S, with a rate of about 0.2 knot, has been observed. Tidal currents along this stretch attain rates of about 0.8 knot. Their directions and rates are determined mostly by the configuration of the coast.

4.69 Between Mys Vykhodnoy and Mys Kankrina, 4.8 miles NE, the coast is mostly cliffy and fringed, in places, by rocks which lie up to about 0.2 mile offshore.

Zaliv Kankrina (73°18'N., 56°48'E.) recedes NNW for 3 miles between Mys Kankrina and its W entrance point, located 1.5 miles W. The W and E sides of this bay are bluff, but the

shore at its head is low. The bay is sheltered from all except S winds, and affords anchorage, in a depth of 9m, off the W side of Mys Kankrina, the E entrance point.

Mys Kankrina, 15 to 20m high and precipitous, is the S extremity of a small peninsula, which is connected to the mainland by a low isthmus. This point is fronted by shallow rocks and a detached rock, 15m high, lies 0.2 mile off the E side of the isthmus.

Between Mys Kankrina and Mys Tsebrikova, 11 miles NE, the coast consists mainly of cliffs. From these cliffs, the land rises in terraces to hills which attain heights of 100 to 200m, about 2 miles inland. A conspicuous hill, 244m high, stands 3 miles N of Mys Kankrina. This stretch of coast is fronted by rocks and a reef, the position of which is doubtful, extends about 0.8 mile offshore, 1.5 miles S of Mys Tsebrikova.

4.70 Zaliv Chekina (73°34'N., 56°59'E.), an inlet, extends NW for 15 miles from its entrance, which lies between a point, located 2.5 miles N of Mys Tsebrikova, and another point, 3.5 miles NNE. Shallow rocks fringe both the entrance points and extend up to about 0.2 mile seaward. A hut has been reported to stand near the S entrance point.

In the entrance of this inlet, depths of 60m lie off the S entrance point and depths of 18m lie about 2 miles S and 4 miles ESE of the N entrance point. A running survey (1933) reported that depths of 90m lie in the middle of the inlet about 4.5 miles from the entrance. The inlet is exposed to E and SE winds and there is no shelter from ice in its outer part.

Caution.—An ammunition dumping area lies about 15 miles E of the entrance to Zaliv Chekina. Anchoring, fishing, or using explosives in this area is not recommended.

The coast between the N entrance point of Zaliv Chekina and Mys Akhlestyshva, 3 miles NE, forms a bight, which is open to the SE, but sheltered from W winds and partially from N winds. From Mys Akhlestyshva, the coast trends NE for 2 miles to Mys Voronina and then N for 2.8 miles to the S entrance point of Zaliv Neznayemyy. This stretch of coast consists of cliffs from which the land rises in terraces to hills inland. Numerous rocks fringe the shore.

A framework beacon, 7m high, stands at an elevation of 30m on Mys Voronina and is conspicuous from the S and SW.

4.71 Zaliv Neznayemyy (73°40'N., 57°39'E.), an extensive inlet, is entered close S of Mys Burlivyy. From the middle of the entrance, which is 4.5 miles wide, this inlet trends first NNW, then NW and W, and finally NW again for a total distance of 20 miles. The inner part of the inlet narrows to a width of less than 0.4 mile, about 16 miles from the entrance, and then widens somewhat into a basin at the head. A low, shingle spit extends from the S shore of the head and a small cove lies close W of it. Lednik Krasnov, a glacier, descends to the S side of the inlet near the narrow part. The shores of the inlet increase in height from the outer part toward the head. Both sides of the narrowest part are 500m high and precipitous. The small cove lying at the head is bordered by mountains, up to 610m high, and a small cairn, which marks an observation spot, stands at its SW corner.

The S entrance point of the inlet is fronted by a number of above-water rocks and shallow rocks lie within 1 mile of the W shore for about 5 miles NNW of this point. Below and above-

water rocks fringe Mys Burlivyy and a group of shallow rocks lies in the middle of the entrance, about 1.8 miles S of this point. A drying rock lies near the S shore of the inlet, 0.5 mile NW of the glacier. Another drying rock lies near the N shore opposite the glacier.

The inlet has depths of 36 to 55m in the entrance. During a running survey (1933), depths of 77 to 137m were reported to lie between the entrance and narrows, decreasing to 37m near the head.

4.72 Between Zaliv Neznayemyy and Zaliv Medvezhiy, the coast trends NE for 5.2 miles from Mys Burlivyy to a nameless point and then N for 7.5 miles to Mys Bogolyubova. This latter point is 31m high and steep with a small cove lying on its S side.

Ostrov Roginskogo and Ostrov Shishmareva, two islets, lie 3 miles SSE and 1.5 miles ENE, respectively, of Mys Bogolyubova. Numerous below and above-water rocks surround the former islet and lie between it and the latter. Heavy breakers have been reported to occur between these two islets and vessels should not attempt to pass between them.

Zaliv Medvezhiy (73°55'N., 57°53'E.), one of the largest inlets in Novaya Zemlya, trends in a general NNW direction for 18 miles from its entrance, which lies between Mys Bogolyubova and Mys Pyat' Pal'tsev, 8.2 miles NE. The shores of this inlet are generally high and steep in places, especially near Mys Bogolyubova, which is 30m high. They consist mostly of earthy bluffs covered with tundra and broken slate, but in other places, they are formed by bare, black slate cliffs. A glacier, with a precipitous face 22m high, descends to the head of the inlet. Zaliv Romanova, an arm, branches from the W side of the inlet, 11 miles within the entrance, and extends W for 6 miles. Two small glaciers descend along the N shore of this arm.

Mys Pyat' Pal'tsev, the E entrance point of the inlet, is formed by a flat-topped headland, 40m high. This point is the E extremity of an island which is separated from the mainland by a narrow passage. Shallow rocks lie off both the entrances of this passage and numerous below and above-water rocks lie up to about 1.5 miles offshore between the island and a point located on the NE side of the inlet, 4.5 miles W. A trading post for hunters is situated on the N side of this island.

The depths in this inlet are considerable. The entrance fairway has a depth of 110m and depths of 68 to 165m lie between it and the head. An isolated depth of 18.3m was reported to lie about 0.7 mile S of Mys Metts, which projects from the E side of the inlet, 8.5 miles within the entrance.

Anchorage may be taken in depths of 15 to 19m, small stones, close S of Mys Metts. However, better anchorage can be obtained in a depth of 20m about 0.2 mile off the NE part of the inlet and adjacent to a cross which stands near the E moraine of the glacier. Vessels using this roadstead will not be inconvenienced by icebergs from the glacier, as the main mass of ice usually passes along the W shore of the inlet.

4.73 Zaliv Khrumchenko (74°10'N., 58°32'E.), an irregular-shaped bay, is entered between Mys Pyat' Pal'tsev and Mys Krashennnikova, 9 miles NE. Hills, up to 200m high, rise from the N part of the W side of this bay.

Mys Krashenninnikova, a precipitous headland, is surmounted by a framework beacon and forms the E extremity of Poluostrov Krashenninnikova, a peninsula, which projects E along the N side of the bay. This peninsula is narrow, 50 to 60m high, and bordered by shingle beaches.

A peninsula, which projects S from Poluostrov Krashenninnikova, divides the N part of the bay into two coves. The W cove has not been fully examined and its entrance is obstructed by a rugged islet, 15m high, and several rocks over which the sea breaks when there is any swell. The entrance of the E cove is obstructed by an above-water rock with a shallow rock lying about 1 mile S of it.

A trading post is situated near the S shore of Poluostrov Krashenninnikova. The depths in this bay are almost unknown and only vessels with local knowledge should attempt to enter.

Zaliv Basova (74°07'N., 58°32'E.), an inlet, is entered between Mys Krashenninnikova and Ostrov Plitnyakovyy, 2 miles N. This latter island is 60m high and its shores appear as bold cliffs, 30 to 38m high, when viewed from seaward. It lies close off the E end of a peninsula which separates this inlet from Zaliv Shamardina. Numerous rocks front the island and lie up to about 1 mile E of it. A cove lies at the head and is connected to the inlet by a narrow passage. Depths of 50 to 150m lie about 2 miles off the entrance to this inlet.

Zaliv Shamardina (74°12'N., 58°41'E.) is entered between Ostrov Plitnyakovyy and Mys Lutkovskogo, 4 miles NE. This bay is divided into two coves by a peninsula which projects E and terminates in a low point with a conspicuous and dark-colored rock at its extremity. The N part of the bay has not been examined and is obstructed by a small and rugged islet which is surrounded by below-water and shallow rocks. Vessels should not enter the bay without local knowledge.

Mys Lutkovskogo, 40m high, is formed by a rocky, precipitous headland and the depths in its vicinity are irregular. When seen from a distance to the S or N, this headland appears as an islet with a steep seaward side. A framework beacon, 6m high and surmounted by a spar and crosspiece, stands on this point.

4.74 Zaliv Tsivol'ki (74°24'N., 58°56'E.) is entered between Mys Lutkovskogo and a point, 14 miles NNE. This inlet extends NW for 17 miles and several islands and islets lie within it. Ostrova Pakhtusova, a group of islands, lies on the N side of the entrance to this inlet. About 5 miles inside the entrance, the inlet narrows suddenly to a width of about 4 miles. It then decreases gradually in width toward the head, where Lednik Serp-i-molot, a glacier, descends. The depths are considerable throughout this inlet, but vessels should not enter without local knowledge.

The W side of the inlet for 5.5 miles to the N of Mys Lutkovskogo is 40 to 60m high and indented by several coves which are separated by bold points. Zaliv Nezametnyy, the largest of these coves, is entered 2 miles N of Mys Lutkovskogo, but its entrance is not easily identified from seaward.

The N side of the inlet between the N entrance point and Mys Pereval'nyy, 3.5 miles W, is 15m high and bordered by a beach. To the N of the latter point, the shore becomes higher and hilly. Mys Briketovyy, located 2 miles WNW of Mys

Pereval'nyy, is a small, dark-colored, and rocky point which is separated from the foot of the coastal hills by a beach. Shallow rocks, on which breakers appear when there is any swell, lie close off this point. A conspicuous hummock, formed by a landslide from the hills, rises from a low point about 3.8 miles NW of this point.

Anchorage may be taken in depths of 14 to 20m about 0.5 mile offshore, near the entrance to a shallow cove which lies 5 miles NNW of Mys Lutkovskogo. Anchorage may also be obtained in a depth of 20m, mud, within a bight indenting the W side of Mys Briketovyy.

Gora Chornaya (74°20'N., 58°35'E.), 462m high, rises 7 miles NNW of Mys Lutkovskogo. This mountain has a dome-shaped summit and its S and E sides are formed by sheer cliffs, 200m high. These cliffs are always free from snow and are conspicuous from a considerable distance to seaward.

4.75 Ostrov Tsivol'ki (74°19'N., 59°03'E.), the southernmost island of the Ostrova Pakhtusova group, lies with its S extremity located 8 miles NE of Mys Lutkovskogo. This coast of this island is very indented and faced by sheer cliffs in places. Partly-sunken ledges front the projecting points. The island is 61 to 70m high, but its surface is uneven. Another island lies close W of the N part of Ostrov Tsivol'ko. The passage separating these islands is narrow, winding, and accessible only to small craft.

Rocky islets, 7m high, lie 1.8 miles S and 1.5 miles SW of the S extremity of Ostrov Tsivol'ki. Both of these islets are fronted on their S sides by rocky ledges, which break. A shallow rock, which also breaks, lies about 2.5 miles E of the same extremity. A shallow rock, the position of which is doubtful, is reported to lie about 5 miles SE of the SE extremity of Ostrov Tsivol'ki.

Ostrov Ploskiy (74°22'N., 59°13'E.), lying 1.5 miles E of Ostrov Tsivol'ki, has a level surface and sheer sides, 30m high. An above-water rock lies close off the outer end of a low spit which projects from the NW side of this islet.

A depth of 16.5m was reported to lie about 1.5 miles SSE of this islet and may indicate the existence of a dangerous reef in this vicinity.

Ostrov Pakhtusova (74°25'N., 59°19'E.), lying 1 mile E of the N entrance point of Zaliv Tsivol'ki, is 50m high. The shores of this island are mostly steep, becoming precipitous in places. A rocky islet lies 3.2 miles E of the SE extremity of the island and several other dangers lie within about 4 miles of it. A framework beacon, 10m high, stands on the SE part of this island.

A small settlement is situated on the N part of the W side of the island. From seaward, the S approach to this settlement leads between Ostrov Ploskiy and Ostrov Pakhtusova and then between the latter island and the N part of Ostrov Tsivol'ki. A channel, with a depth of 13.7m in the fairway, leads between Ostrov Pakhtusova and Ostrov Zherdi, an island, which lies between Ostrov Pakhtusova and the N entrance point of Zaliv Tsivol'ki. A roadstead lies N of Ostrov Zherdi, between the N part of the W side of Ostrov Pakhtusova and the mainland. The depths in this roadstead are irregular and several shoal patches, with depths of 3.9m, lie in its N part. Vessels may anchor in depths of 20 to 29m, shingle, close off the settlement. This

roadstead is sheltered from the N by a chain of rocks, which extends from the mainland, and by several unsurveyed islands.

4.76 Mys Vikulova (74°36'N., 59°52'E.) is located 16 miles NE of the N entrance point of Zaliv Tsvol'ki and is fringed by below and above-water rocks. Zaliv Oga, an extensive and unsurveyed bay, lies between these two points and a glacier descends to its head.

Zaliv Sedova (74°40'N., 60°00'E.) indents the coast between Mys Vikulova and Mys Vysokiy, 10 miles NE. Hills rise in terraces from both sides of this inlet and most of those bordering its inner part have pointed summits. The hills standing on the S side of the inner part are 120 to 230m high and those standing on the N side are 180 to 200m high. The width of this inlet is reduced to about 0.7 mile off Mys Kertselli (Mys Quercelli), which projects from the NE side, 7.5 miles inside the entrance. The inner part of the inlet, which is about 1 mile wide, then trends NE for 5 miles. A reef, partly above water, extends about 1 mile from the SW shore of the inlet, 4 miles NNW of Mys Vikulova. A group of above-water rocks has been reported to lie near the SW shore, 3.5 miles above this reef.

Although the inner part of the inlet is sheltered, its great depths restrict anchoring. Vessels with local knowledge can obtain anchorage close to the shore inside of Mys Kertselli and at the extreme head of the inlet. Vessel at anchor in the inlet should take precautions against the severe squalls which may blow down from the hills. When entering this inlet, vessels should keep closer to the NE side in order to avoid the dangers fronting Mys Vikulova and the SW shore. Local knowledge is required.

Zaliv Neupokoyeva (74°48'N., 60°21'E.) is entered between Mys Vysokiy, a conspicuous headland, and Mys Nestora Smirnova, 6 miles NE. This inlet is open to E and SE winds and is partly protected from NE winds. It is bordered by hills, 90 to 210m high. The entrance channel has depths of 27 to 113m in the fairway a depth of 20m lies near the head. A shoal, with a depth of 13.1m, lies in the center of the entrance, about 2.5 miles SSW of Mys Nestora Smirnova. A reef, partly above water, extends about 0.6 mile from the SW shore of this inlet, 2.3 miles NW of Mys Vysokiy.

From Mys Nestora Smirnova, the coast trends in a general NNE direction for 7 miles to Mys Bogushevicha.

4.77 Zaliv Rusanova (74°58'N., 60°30'E.) recedes NW between Mys Bogushevicha and Mys Dal'niy, 6 miles N, and has depths of 37 to 110m in its outer part. The W side of this inlet is indented by three coves and another one lies at its N corner.

The southernmost cove on the W side has not been examined and a reef extends from its N entrance point. The middle cove has comparatively shelving shores and a hill, 213m high, rises near its SW side. It has depths of 12 to 25m and a rock lies close off the N shore. The northernmost cove has an entrance about 1 mile wide and extends 1.5 miles inland. Hills, 215 to 245m high, stand near the shore of this cove. Several above-water rocks lie off its N entrance point and a reef, parts of which are above water, extends for almost half of the width of the cove from the middle of its N side. This cove has depths of

16 to 35m and anchorage, sheltered from all winds, may be obtained in its W part.

The cove at the N corner of the inlet has an entrance 0.5 mile wide and extends NNE for 2 miles. It has depths of 46 to 80m in the middle part and a glacier descends to the head.

The character of the coast to the NE of Mys Dal'niy changes and becomes comparatively less broken. Between Mys Dal'niy and Mys Middendorfa, 107 miles NE, parts of the coast are faced by a number of extensive glaciers. Zaliv Blagopoluchiya, the only indentation of navigational importance, lies about midway along this stretch.

The coast of the NE part of Novaya Zemlya consists mainly of several bights separated by points and headlands. Several islets lie off this coast between Mys Zhelaniya and Mys Karlsena.

Caution.—Between Mys Dal'niy and Mys Karlsena, icebergs are frequently encountered near the coast and especially near the seaward face of the glaciers. At times, they may be encountered at a considerable distance offshore.

4.78 Mys Medvezhiy (75°18'N., 61°51'E.), 26m high, is located 25 miles NE of Mys Dal'niy. Ostrov Zelenyy, a low island, lies 8 miles NNE of Mys Dal'niy. A shoal, with a depth of 1.5m, lies about 5 miles S of this island. Isolated depths of 11 and 10.5m are reported to lie about 5 miles SE and 13 miles E, respectively, of the island.

Bukhta Yekaterinskaya lies on the W side of the peninsula which projects S and terminates in Mys Medvezhiy. It extends N for 3 miles and is 2 miles wide at the entrance. This bay has shelving shores and gives the appearance of having shallow depths within it. However, it was reported that a depth of 90m lies in the entrance and a depth of 40m lies about 1.5 miles inside the entrance. Several isolated hills stand about 2 to 3 miles inland at the W side of this bay.

Zaliv Vlas'yeva (75°24'N., 62°01'E.) lies between Mys Medvezhiy and Mys Edvard, 9 miles NE. The tongue of a glacier descends to the W shore of this bay, near the head. A shoal, with a depth of 8.2m, lies in the approach to the bay, about 5.5 miles ENE of Mys Medvezhiy.

A large glacier, with a seaward face about 7 miles wide, is located between Mys Edvard and Mys Kireyeva (75°37'N., 63°32'E.), 23 miles NE.

Zaliv Blagopoluchiya (75°37'N., 63°40'E.) extends N for 6 miles and is entered between Mys Kireyeva and Mys Opasnyy, 3.5 miles E. This inlet narrows to a width of about 0.5 mile near its head and hills, 150 to 320m high, rise on both its sides.

The Novaya Zemlya icecap is located 4.2 miles from the head of this inlet and descends to the sea, in the form of glaciers, to the SW and NE of the inlet. Numerous streams flow into the inlet from the icecap.

Mys Kireyeva is formed by a slightly projecting hummock, 10m high. Mys Opasnyy is located at the S extremity of a peninsula and rises to a conical hill, 55m high. A beacon, 12m high, stands on this point. A reef extends 3 miles S from Mys Opasnyy and several shallow rocks lie within 3 miles SE, S, and SW of the point. A shoal patch, with a depth of 11.4m, lies in the middle of the entrance fairway, about 1.8 miles WNW of this point.

About 2.3 miles NNE of Mys Opasnyy, the peninsula is joined to the mainland by a low and sandy isthmus, 0.2 mile wide. A polar station is situated on the isthmus.

The land on the E side of the inlet rises in terraces to Gora Yakobi, which is 215m high and stands 4 miles N of Mys Opasnyy. On the E side of the head, a river flows into the inlet and is fronted by an extensive drying alluvial flat which extends up to 0.8 mile offshore.

The depths throughout the inlet are irregular, being generally greater in the inner part. Depths of 35 to 137m lie in the outer part and depths of up to 165m lie in the inner part. The shores of the inner part are steep-to with depths of 60 to 70m lying 300m offshore. Except off the mouth of the river at the E side, depths of not less than 10m lie up to about 200m off the head. Vessels are recommended to obtain anchorage in depths of 20 to 50m, sand and shingle, in the NW part of the head.

Caution.—A local magnetic anomaly has been reported to exist to the S of Mys Edvard (75°24'N., 62°15'E.).

4.79 Between Mys Opasnyy and Mys Middendorfa, 49 miles ENE, four glaciers, known collectively as Lednik Nordenshel'da, descend to the coast. These glaciers appear from seaward as white strips against the high land backing the coast. The hills rising to the NE of Zaliv Blagopoluchiya are 145 to 190m high, but farther NE, they gradually become lower. Between the glaciers, the coast slopes gently to the sea and is indented by several small bights.

The seaward face of Lednik Vershinskogo (75°44'N., 64°20'E.), the southwesternmost glacier of Lednik Nordenshel'da, commences about 7 miles NE of Mys Opasnyy and is 3.2 miles wide. A shoal, with a depth of 8.2m, is reported to lie about 2.5 miles offshore, 10 miles ENE of Mys Opasnyy and abreast this glacier.

Between Lednik Vershinskogo and Lednik Rozhdestvenskogo, 8 miles ENE, the stretch of high coast is backed by isolated hills, 210 to 230m high. The face of Lednik Rozhdestvenskogo is about 4.5 miles wide and it projects about 1.5 miles seaward from the adjacent shore. Two high hills, the northernmost of which has a flat summit, rise near the SW edge of this glacier.

The face of the glacier, known as Lednik Novopashennogo, commences about 7.5 miles ENE of Lednik Rozhdestvenskogo and extends for about 3.5 miles along the coast. About 4.2 miles ENE of the former glacier, the seaward face of Lednik Roze, which is about 4.5 miles wide, commences along the coast.

4.80 Zaliv Techeniy (76°01'N., 65°30'E.) is entered between a point, located 3 miles ENE of Lednik Roze, and Mys Middendorfa, 4 miles E. This bay is open to the S and has a depth of 9m at its head.

Between Mys Middendorfa and Mys Sporyy Navolok, 27 miles ENE, the coast is uniformly hilly. It is especially bold for about 2 miles on either side of a sandy and deep gorge, about 1 mile wide, which is located 15 miles NE of Mys Middendorfa.

Bukhta Vitney (76°13'N., 67°52'E.) is entered between Mys Chorny and Mys Danilov, 3 miles E. Several rocks are reported to lie offshore, SW of this bay. Vessels can obtain anchor in a depth of 9m near the head of the bay. A stone beacon stands on

Mys Danilov and a cairn, visible from seaward, stands 0.5 mile inland NW of it.

Caution.—A shoal bank, with a least depth of 4m, was reported (1963) to lie in approximate position 76°01'N., 66°48'E.

Mys Sporyy Navolok (76°12'N., 68°21'E.), located 3.5 miles E of Mys Danilov, is a bold headland projecting 1.5 miles E from the general line of the coast. Below and above-water rocks fringe this headland and extend up to about 0.5 mile seaward of its S extremity, where breakers have been observed.

Mys Konstantina (76°29'N., 69°04'E.) is located 19 miles NNE of Mys Sporyy Navolok and the coast between consists of several bights separated by small points. Two cairns stand on Mys Bismark, a bluff point, which is located 10 miles NNE of Mys Sporyy Navolok. Another cairn, visible from seaward, stands on the slope of a range of rocky hills, up to 220m high, which rises 3 miles W of Mys Bismark.

Between Mys Bismark and Mys Konstantina, the coast is mostly uniform and only slightly indented. Cairns stand on Mys Olyeni and Mys Klimov which are the only two noticeable projections along this stretch of coast.

Mys Konstantina, 20m high, appears from seaward as a black patch against the background of the land and is surmounted by a beacon, 10m high. This headland is fringed by rocks which extend up to about 0.5 mile E of it. A steep-sided and flat-topped islet lies 1 mile N of the headland and is divided by a fissure which is visible from seaward. Below and above-water rocks front the E side of this islet and a rock, awash and upon which the sea breaks, lies about 5 miles N of it.

4.81 Between Mys Konstantina and Mys Zhelaniya, 28 miles NNW, the coast is 50m high. A conspicuous cairn stands 8 miles N of the former point.

Mys Flissinskiy, located 11 miles N of Mys Konstantina, is a narrow, bluff headland fringed by rocks. This headland is 20m high and surmounted by a stone pyramid. Mys Dever, located 5.5 miles N of Mys Flissinskiy, is a bold and rocky point. This point is surmounted by a cairn and fronted on its E and N sides by sunken ledges.

Between Mys Dever and Mys Zhelaniya, several headlands recede inland and gradually increase in height toward the hills, which back this stretch of coast. Cairns stand on Mys Mon and Mys Iogansena, which are located 6 and 10 miles, respectively, NW of Mys Dever. A reef, with a least depth of 3.7m, extends 2.4 miles E from a point on the shore located close S of Mys Mon. A wooden beacon was reported (1938) to stand near the cairn situated on Mys Iogansena.

Bukhta Pospelova (76°54'N., 68°38'E.) is entered between Mys Iogansena and Mys Zhelaniya, 2.5 miles NNW. The shores of this bay are comparatively low and gently sloping. Anchorage can be taken in depths of not less than 10m, gravel and mud, about 0.4 mile off any part of the shore of the bay. The holding ground is good and the bay is sheltered from N winds, but a swell enters during strong N and NW winds.

Icebergs that drift into the bay often remain there. The drift ice usually stays 2 to 5 miles offshore, but during E winds in

July and August, the bay is packed with ice. From the end of August to the end of October, no ice is usually visible from the shore.

Several triangulation marks were reported (1935) to stand in places near the shore. Range beacons, in line 287°, were reported (1947) to stand on the NW side of the bay, but were also reported to be difficult to identify against the background of the land. The existence of these marks has not since been verified.

Mys Zhelaniya (76°57'N., 68°34'E.), 29m high, is the E extremity of a conspicuous peninsula which has steep sides and a level surface. This peninsula is composed of light gray sandstone and connected to the mainland by a low isthmus, about 300m wide. A conspicuous pinnacle rock stands close off the point and several other large above-water rocks lie within about 0.3 mile E of it.

A polar station, with two radio masts, is situated on the isthmus. A framework tower, 12m high, stands on the peninsula about 0.3 mile W of the point. A radiobeacon was formerly situated at this tower. A cross, 2m high, stands on the cliff top close E of the tower, but it is inconspicuous from seaward. A wooden framework pyramid was reported (1932) to stand close E of the tower.

Caution.—An ammunition dumping area extends about 60 miles N from the vicinity of Mys Zhelaniya. Anchoring, fishing, or using explosives in this area is not recommended.

A probable shoal area, lying about 2 miles N of Mys Zhelaniya, is indicated by stationary ice which has been observed in this vicinity to be apparently aground. Icebergs, with underwater depths of up to 15m, have been observed to pass between this stationary ice and the point.

It is reported that a rock, awash, lies about 10 miles NW of Mys Zhelaniya.

4.82 Ostrov Lozhkina (76°58'N., 68°32'E.), 11m high, lies 1.2 miles NW of Mys Zhelaniya. This rocky islet has steep sides intersected by gullies and a level surface. The N side of the islet is steep-to, but depths of less than 18m lie up to 0.4 mile E and WSW of it.

Ostrova Oranskiye consists of two groups of islets which lie 2.3 miles W of Ostrov Lozhkina and 5 miles WNW of Mys Zhelaniya. The E group comprises of four islets with numerous rocks lying between them. A bank, with depths of 3 to 16m, extends 2.5 miles N from this group. The W group comprises of two islets and an isolated rock. A cross stands on one of these islets. Both groups are conspicuous from the E or W, but from the N, they are difficult to make out clearly against the coastal background.

Breakers have been reported to occur about 1 mile E of the E group and 1.5 miles S of the W group.

Mys Karlsena (77°00'N., 67°45'E.) is located 13 miles WNW of Mys Zhelaniya. The coast between is low and from it, the land rises gradually toward the central part of Novaya Zemlya.

An isolated depth (doubtful sounding) of 44m and a bank, with a depth of 38m, have been reported to lie about 14 miles NNW and about 34 miles NW, respectively, of Mys Karlsena.

Zemlya Frantsa-Iosifa

4.83 Zemlya Frantsa-Iosifa (Franz Josef Land), an extensive archipelago, lies in the N part of the Barents Sea and consists of numerous islands and islets of various sizes. This archipelago is located between the parallels of 79°45'N and 81°50'N, and the meridians of 42°00'E and 65°30'E.

Britanskiy Kanal and Avstriyskiy Proliv, two straits, extend in a general N direction and divide the archipelago into three groups of islands. The central group is subdivided into N and S parts by Proliv Markama, the principal E/W passage. Numerous other channels, some of which are quite narrow, separate the various islands and islets of the archipelago. Most of the straits are deep and have steep-to shores.

The islands of Zemlya Frantsa-Iosifa are mountainous, of volcanic origin, and are covered with glaciers, which give them a dome-like appearance. In places, cliffs composed of dark-colored rock contrast with the background of ice and snow. Lichens, mosses, and Arctic plants are found on some parts of the islands not covered with ice. The islands also are inhabited by bears, walrus, seals, foxes, and, in season, various Arctic birds. No wood of any kind grows on the islands, but driftwood can be found on the shores of some of the channels. The highest elevation of the islands is at a point near the W extremity of Ostrov Luidzhi which rises to 1,500m. Several anchorages are available, but they may be rendered untenable by floating ice during the navigation season. During the navigation season, the islands are visited by Russian icebreaker vessels, which support the polar stations, and occasionally by cruise ships.

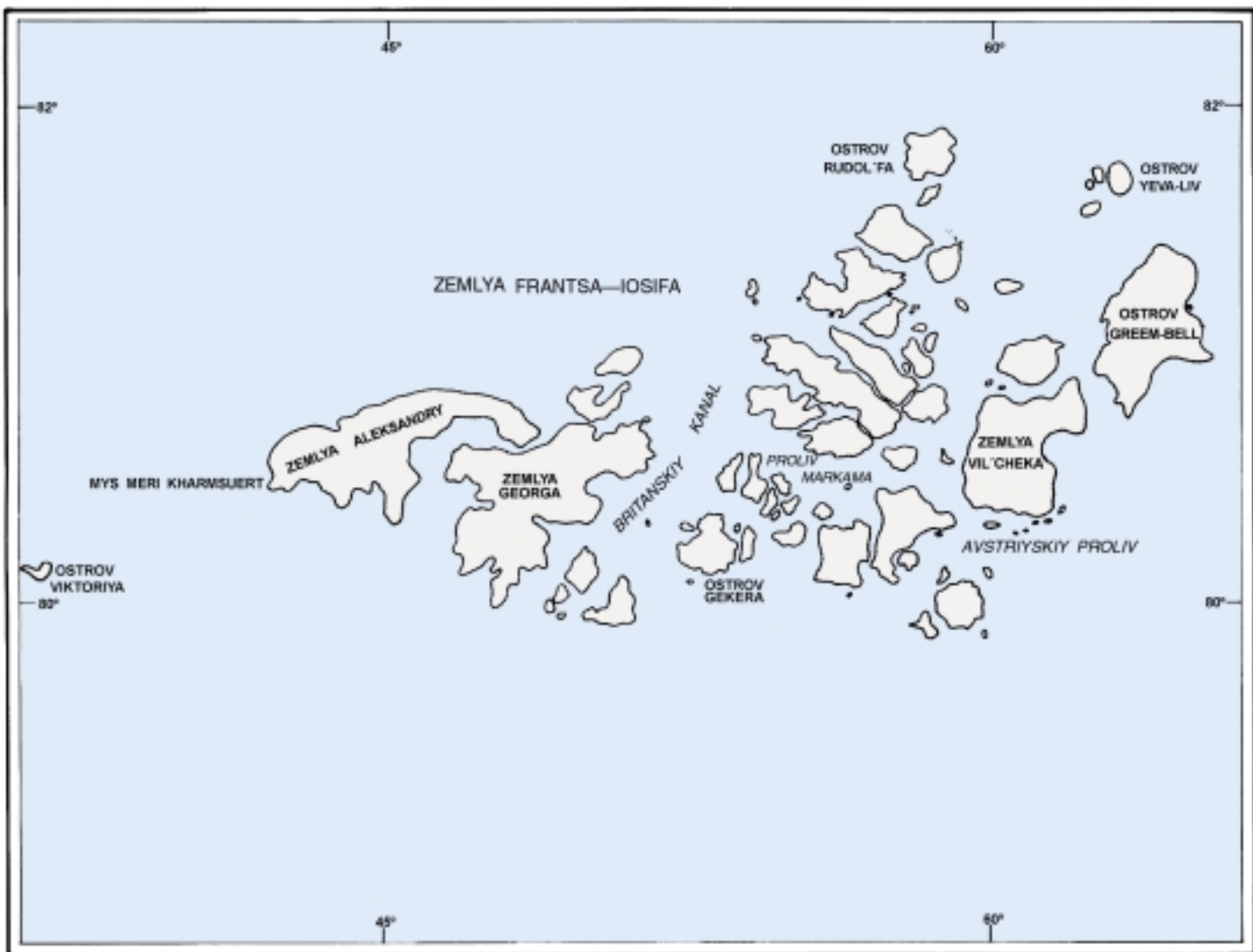
Ostrov Viktoriya (80°08'N., 36°30'E.) lies about 80 miles WSW of the W extremity of Zemlya Frantsa-Iosifa. This small island is 101m high and is covered with an icecap.

Winds—Weather.—During the winter, the prevailing winds are NE and E. In the summer, SE, W, and NW winds predominate. At Mys Flora, in the S approach to Britanskiy Kanal, the winds in June alternate between W to NW and E to SE. During July, W winds gradually become prevalent, but in August there is a shift to E and SE winds. The winter winds are frequently strong, sometimes attaining hurricane force.

Being surrounded by ice during the greater part of the year, the archipelago has a severe climate. The summer temperature is uniformly low, the mean temperature rising slightly above freezing only in July and August. In the winter, there are marked variations in the temperature. At Bukhta Tikhaya, the mean temperature in March, the coldest month of the year, is about -21.7°C. The relative humidity is high. There are many overcast days, particularly in the summer. Precipitation, which is mostly in the form of snow, is greater in the S part of the archipelago than in the N part. Fog occurs on an average of somewhat over 100 days per year and is most prevalent in June, July, and August.

Ice.—In June, the edge of the heavy Arctic pack ice lies far S of Zemlya Frantsa-Iosifa, but in July, it is usually located N of the archipelago, lying close to or touching the NE islands. In some years, the sea in the vicinity of the archipelago may be free of ice throughout August and September.

Some of the narrower straits and inlets among the islands are icebound throughout the year, but the larger ones are usually



Zemlya Frantsa-Iosifa

free during some part of the navigation season. Fast ice in the straits is often broken up by the tidal currents.

Numerous icebergs from the glaciers on the islands of the archipelago are usually encountered in the surrounding waters and the straits and bays.

Tides—Currents.—A current flowing S from the Polar Basin into the NE part of the Barents Sea passes E of Zemlya Frantsa-Iosifa and divides into two branches, one setting along the S and W coasts of the archipelago and the other setting WSW and SW.

The tidal range in the straits and bays of the archipelago is slight, but it is affected to a large extent by atmospheric pressure and winds.

The tidal currents among the islands are reported to be strong in places, their velocity being considerably influenced by the wind.

Depths—Limitations.—The depths around the archipelago and within the straits are very irregular. Depths of 44 to 457m lie in Britanskiy Kanal and its S approaches; depths of 81 to 380m lie in Proliv Markama; and depths of 22 to 280m lie in Avstriyskiy Proliv.

A shoal patch, with a depth of 4.8m (position doubtful), is reported to lie about 15 miles ESE of the SE extremity of Ostrov Nortbruk. A shoal, with a depth of 18m, is reported to lie about 11 miles NE of the easternmost extremity of the islands.

Vessels bound for Zemlya Frantsa-Iosifa should proceed as required by the ice conditions encountered. When approaching from the S, it is recommended that vessels keep close to the meridian of 50°E until the ice edge is reached. Then, depending on the ice and weather conditions, vessels should select the direction of approach. In the middle of August, the archipelago can be approached from the Kara Sea and, occasionally, from NW.

Vessels can usually approach the archipelago from July through September, although in 1905, a vessel reached the islands in June.

The latest date of arrival of a vessel was reported (1943) to be September 22. In some years, vessels have been unable to reach the islands during the summer because of unfavorable ice conditions.

Caution.—The shorelines of the islands of Zemlya Frantsa-Iosifa and the location of known dangers in this area are based on reconnaissance only, and are therefore approximate. The passages lying among the islands and the approaches to these channels have only been slightly examined. Even though the general depths in these channels are great, they may contain unknown dangers.

Local magnetic anomalies have been observed in Britanskiy Kanal, in the S part of the central group of islands, in Avstriyskiy Proliv, and N of Zemlya Vil'cheka in the easternmost group of islands.

A National Nature Sanctuary has been established in an area bound by the following positions:

- a. 79°30'N, 44°00'E.
- b. 79°30'N, 66°00'E.
- c. 82°30'N, 44°00'E.
- d. 82°30'N, 66°00'E.

Any activity including hunting, fishing, tagging animals, and plant collection outside established tracks and landing places is prohibited, except for authorized vessels.

4.84 Zemlya Aleksandry (80°32'N., 42°15'E.) is the westernmost island of the archipelago. This island is 50 miles long and about 20 miles wide in the S part, from which it curves NE and E. The S part of the island is high and covered with a dome-shaped icecap which is visible, in clear weather, from a distance of over 40 miles. The E part of the island is comparatively low, but rises at the E extremity. The S side of the island is indented by two bights and a cairn, 3m high, stands on the point which separates them. The W and N sides of the island are only slightly indented. The tidal currents along the S coast of the island have been reported (1928) to set NE and SW and attain rates of 0.5 knot. Shoals, with unknown depths, have been reported (1932) to lie off the N coast of the island.

Zemlya Georga (80°30'N., 49°00'E.), the largest island of the archipelago, lies E and SE of Zemlya Aleksandry and is separated from it by a channel, 2.5 to 12 miles wide. The S extremity of this island is 240m high, precipitous, and visible, in clear weather, from a great distance to seaward. Fast ice, apparently aground, has been observed to the SE of the S extremity and indicates the probability of sunken dangers. This island extends 65 miles in a general NE/SW direction and has a maximum width of 40 miles. The coast of the island, for the most part, is indented by numerous bays of various size. The N part of the island is formed by a peninsula which is joined to the main part by an isthmus, about 2 miles wide. Several spits, dangerous to navigation, have been reported to project a considerable distance from the W side of this peninsula. Most of Zemlya Georga is covered with an icecap.

Ostrov Bell lies 12.5 miles E of the S extremity of Zemlya Georga. This island is 285m high, but is comparatively small. Ostrov Meybel lies NE of Ostrov Bell from which it is separated by a narrow strait.

Ostrov Bryusa (Bruce Island) (80°10'N., 49°55'E.) lies NE of Ostrov Meybel from which it is separated by a strait, 2.3 miles wide. This island is covered with an icecap except near part of its SW coast. Ostrov Vindvord, a small and rounded island, and a small, ice-free island lie near the SE and E sides, respectively, of Ostrov Bryusa. Vessels can anchor in a depth of 22m, mud with good holding ground, in the channel lying between Ostrov Vindvord and Ostrov Bryusa.

Ostrov Nortbruk (80°00'N., 50°51'E.) lies with Mys Flora, its SW extremity, located 4.5 miles S of the S end of Ostrov Bryusa. Mys Flora consists of a terraced cape which is surmounted by a gray granite obelisk. The island is roughly triangular in shape and Mys Barentsa, the SE extremity, is located 15 miles ESE of Mys Flora. This point is formed by the seaward end of a small and cliffy peninsula, 10m high, which is joined to the island by a low isthmus. Two cliffy islets lie 1 mile offshore, 2 miles NNE of the point. From Mys Barentsa, the coast of the island trends in a general NNW direction for 12 miles to Mys Lagernyy, the N extremity. The NW side of the island is indented by a bay which has not been examined. The island, for the most part, is free of glaciers. An area, in which the depths do not exceed 50m, extends up to about 10 miles S from the island.

4.85 Britanskiy Kanal (British Canal) (80°00'N., 51°50'E.) is entered from the S through three straits. The westernmost strait separates Ostrov Bell, Ostrov Meybel, and Ostrov Bryusa from Zemlya Georga. It is 23 miles long and has a least width of about 6 miles. Depths of 44 to 457m lie in the middle of this strait. It has been reported that the ice breaks up in this strait earlier than in the other two.

The middle strait separates Ostrov Bell, Ostrov Meybel, and Ostrov Bryusa from Ostrov Nortbruk. It is 14 miles long and has a least width of about 4 miles. Depths of 67 to 250m lie in the middle of this strait. The ice usually breaks up in the strait around July 15. This strait seldom remains ice-bound during the entire navigation season, but it usually contains drift ice.

The easternmost strait lies between Ostrov Nortbruk and Ostrov Gukera (80°15'N., 53°00'E.) and is the most convenient for approaching Britanskiy Kanal. This strait has a least width of 15 miles and depths of 100 to 457m. The tidal currents in this strait are sometimes strong.

Ostrov N'yutona (80°00'N., 53°00'E.), a small ice-free island, lies in the approach to the E strait, 9 miles SSW of the SE extremity of Ostrov Gukera (Hooker Island) (80°15'N., 53°00'E.). Two other small and ice-free islands lie 8 miles WNW and 5.5 miles NW of Ostrov N'yutona.

A shoal patch, with a depth of 5.8m, and an extensive shoal area lie about 1.5 miles SE and about 4 miles ENE, respectively, of Ostrov N'yutona.

Britanskiy Kanal, along with the easternmost strait, separates the W and central groups of Zemlya Frantsa-Iosifa. It forms the usual route for vessels bound for the N islands of the central group. This strait, which is 40 miles long, has a least width of about 17 miles and depths of 55 to 448m.

The E coast of Zemlya Georga lies on the W side of the strait and the islands of Ostrov Gukera, Ostrov Ketlitsa (80°30'N., 53°20'E.), and Ostrov Luidzhi (80°50'N., 54°10'E.) lie on the E side.

The only known islands lying within the fairway channel of the strait are Ostrov Iton, located near the middle of the S entrance, and Ostrov Skott-Kelti, located 8 miles E of Ostrov Iton.

Currents have been reported to set S along the W side of the strait and N along the E side. Ice usually presents no serious impediments to navigation in the S part of the strait, but compact ice, which is sometimes impassable, may sometimes be encountered in the N part.

It has been reported that ice conditions in the E part of the strait are usually more favorable than those in the W part. The most favorable ice conditions prevail during August.

4.86 The S part of the central group of islands of Zemlya Frantsa-Iosifa consists of more than thirty islands and islets. The largest islands of the group are Ostrov Gallya, Ostrov Mak-Klintoka, and Ostrov Gukera. Most elevations on the islands are ice-covered.

Ostrov Gukera lies with Mys Dandi, its W extremity, located 16 miles ENE of Mys Lagernyy, the N extremity of Ostrov Nortbruk. This island is 15 miles long and most of its E side is covered with ice. The W coast of the island is indented by three bays. The head of the northernmost bay is formed by the front of a glacier, from which large pieces of ice break off. In addition to the ice from this glacier, icebergs and sea ice are

carried into this bay by the winds and currents. The winds in this vicinity are very variable in both direction and force. Winds from the S usually send a heavy swell into the bay.

Ostrov Mak-Klintoka (McClintock Island) is the easternmost and largest of several islands lying between Ostrov Gukera and Ostrov Gallya, 34 miles E. A dome-shaped glacier covers the W part of this island and mountains, up to 485m high, rise in its SE part.

Ostrov Gallya (80°11'N., 57°20'E.), lying about 1.2 miles E of Ostrov Mak-Klintoka, is 24 miles long and has a maximum width of 20 miles. The surface of this island is formed by a glacial plateau, 420 to 455m high.

Ostrov Sal'm (80°00'N., 58°40'E.), the largest of several islands and islets lying S and SE of Ostrov Gallya, is covered with a dome-shaped icecap. The W extremity of this island lies 10 miles ESE of the S extremity of Ostrov Gallya.

Ostrov Vil'cheka (Wilczek Island), an ice-covered island, lies 2.3 miles off the SW side of Ostrov Sal'm. Eskimoskiye Rify, a reef, is about 2 miles long and lies up to 5 miles S of the middle islet of a group of three which are located near the S side of Ostrov Sal'm.

Ostrov Litke, a small island, lies 3 miles S of the SE extremity of Ostrov Sal'm. A shoal, with a depth of 2.4m, and a bank, with a least depth of 17.8m, lie about 1.5 miles SW and 3 miles E, respectively, of this island.

A group of four islands lies in the approach to Avstriyskiy Proliv (80°30'N., 59°00'E.), between 7 and 15 miles SSE of the E extremity of Ostrov Gallya.

Ostrov Lamon, a low and rocky islet, lies 6 miles S of the S extremity of Ostrov Vil'cheka. It is the southernmost islet of Zemlya Frantsa-Iosifa. A reef, with its outer part marked by breakers, extends NE from this islet. Shoal patches lie S of the islet and vessels should not approach within 1.5 miles of its S side.

Ostrov Ketlitsa (80°30'N., 53°20'E.), lying 7 miles N of Ostrov Gukera, is 8.9 miles long and 4 miles wide in its S part. This island tapers in a general NNE direction to its N extremity. Its S part is covered with ice, but the N part is ice-free.

Caution.—Numerous uncharted dangers are reported to lie in the areas located S of Ostrov Vil'cheka, Ostrov Sal'm, and Ostrov Litke. Vessels should navigate in these areas with great care.

4.87 Several islands, most of which border the S side of Proliv Markama (80°30'N., 55°45'E.), lie between Ostrov Ketlitsa and the N side of Ostrov Mak-Klintoka.

Ostrov Nansena (80°30'N., 54°05'E.), the greater part of which is covered with an icecap, lies 3 miles E of Ostrov Ketlitsa. Ostrov Bromvich, lying 2 miles E of Ostrov Nansena, is ice-covered except along its N coast, where black cliffs appear in places. Ostrov Braysa lies 1.8 miles SSE of Ostrov Bromvich. Ostrov Aldzher lies 2 miles N of the NW part of Ostrov Mak-Klintoka and a mountain, 414m high, stands on its W part. Another mountain, 375m high, stands near the middle of this island and a conical mountain rises near its NE extremity. These mountains are conspicuous and provide good marks for vessels navigating the adjacent straits. Other islands in this part of the central group lie SSW of Ostrov Bromvich and Ostrov Braysa.

Caution.—According to hydrographic observations (1958), large polynyi or thinned out ice forms every year in the month of June and extends SW of the archipelago. The ice attains a thickness of approximately 0.9m in the straits leading towards the polar stations.

4.88 Proliv Markama (80°30'N., 55°45'E.), the strait separating the S and N parts of the central group of Zemlya Frantsa-Iosifa, connects the N part of Britanskiy Kanal with Avstriyskiy Proliv. This strait is 45 miles long and has a least width of 4.5 miles. Vessels, with drafts of up to 9m, have passed through this strait which has known depths of 145 to 690m.

The W entrance of the strait lies between Ostrov Ketlitsa and Ostrov Luidzhi (80°50'N., 54°10'E.). The S side of the strait is bordered by Ostrov Ketlitsa, Ostrov Nansena, Ostrov Bromvich, Ostrov Braysa, Ostrov Mak-Klintoka, and Ostrov Gallya. The N side is bordered by Ostrov Luidzhi, Ostrov Champ (80°40'N., 55°40'E.), and Ostrova Kheysa (80°36'N., 57°25'E.).

Ostrov N'yukomba (80°29'N., 56°30'E.), a small island, lies in the fairway channel, 7 miles WNW of the NW extremity of Ostrov Gallya. A shallow shoal area appears to exist to the E of this island as stranded ice has been observed (1936) in this area.

The E entrance lies between the N extremity of Ostrov Gallya and the E extremity of Ostrov Kheysa. Three low islets lie in this entrance, near the coast of Ostrov Gallya.

The N part of the central group of Zemlya Frantsa-Iosifa, comprising of more than twenty islands, extends from Proliv Markama to Ostrov Rudol'fa, the northernmost island of the archipelago. Most of the islands in this part of the central group are ice-covered. In some years, the channels lying among the islands are passable with difficulty or are entirely icebound throughout the navigation season. Some islands and straits in this area have been only partially explored.

Ostrov Luidzhi (80°50'N., 54°10'E.), the westernmost island on the N side of Proliv Markama, is irregular-shaped and almost entirely covered with ice. The SW extremity of this island lies 11.5 miles N of the N extremity of Ostrov Ketlitsa.

Ostrov Champ (80°40'N., 55°40'E.) lies SE of Ostrov Luidzhi and is separated from it by Proliv Kuka, a channel, which has a least width of 1.5 miles. The N, NE, and SE parts of this island are glacier-covered. Two ice-free hills stand on a peninsula which projects from the W side of the island. A small bay indents the coast close S of this peninsula.

Ostrov Kheysa (Hayes Island), lying 3.5 miles ESE of Ostrov Champ, is covered with ice only on its N part. The E and SE sides of this island are 50m high and precipitous. An ice-covered hill rises on the W side of this island.

From Britanskiy Kanal to Ostrov Rudol'fa, the northernmost island, nine named and two unnamed islands lie adjacent to the usual sea route.

4.89 Ostrov Salisbyuri (81°02'N., 54°43'E.) is the southernmost of the islands lying along the sea route. This island is the largest in the N part of the central group and lies with its SW extremity located 8.5 miles NNE of the NW extremity of Ostrov Luidzhi. The greater part of this island is

covered with glaciers and it rises to heights of 250 to 320m in the central and SE parts.

Ostrov Yelizavety lies 1.5 miles W of the NW extremity of Ostrov Salisbyuri. This small island is ice-free and an islet lies 2 miles SW of it.

Ostrov Kharley (81°15'N., 54°11'E.) lies 9.5 miles N of Ostrov Yelizavety. This island is ice-free and a small unnamed island lies 1 mile S of it.

Ostrov Dzheksona (81°15'N., 55°22'E.), an irregular-shaped island, lies 11 miles E of Ostrov Kharley. The W extremity of this island is formed by a conspicuous cliffy cape.

An extensive bay, which has not been examined, indents the NW coast of the island. Three islets lie within this bay and two islets lie near the coast, 0.8 mile NE of its N entrance point. Ostrov Ommaney, a small and ice-free island, lies 7 miles NW of the SW entrance point. A group of four black, cliffy islets, lies within 3.2 miles of the SW entrance point.

4.90 Ostrov Karla-Aleksandra (81°27'N., 57°10'E.) lies NE of Ostrov Dzheksona and is separated from it by Proliv Baka, a strait, which has a least width of 2 miles. This island is 16 miles long and 10 miles wide. It is mostly covered with a glacier and the coasts are only slightly indented. A group of three ice-free islets lies 1.5 miles NW of the W extremity of the island. Another islet lies 1.2 miles SW of a point located 6.5 miles NE of the W extremity. The NW extremity of the island is formed by a high and precipitous projection of dark-colored rock.

Ostrov Gogenloe lies 6 miles ENE of the N extremity of Ostrov Karla-Aleksandra. This island is 5 miles long and 2.5 miles wide. Its SE coast is covered with ice and several islets lie off the NE extremity.

Ostrov Rudol'fa (81°45'N., 58°20'E.), the northernmost island of Zemlya Frantsa-Iosifa, lies with its SW extremity located 9 miles NNE of the N extremity of Ostrov Karla-Aleksandra. This island is approximately square, with each side being about 9 miles long, and higher in its W part. A glacier covers most of the island and its inland part is bluish-colored. The N and E coasts of the island are covered with ice and the SE extremity is formed by a glacial precipice. The E part of the S coast is ice-covered, but bare cliffs appear in many places along the W part.

A polar station is situated on the W side of the island. Vessels can anchor in a depth of 35m, mud with good holding ground, about 200m from the shore of the bay lying near the polar station. However, vessels using this anchorage must be ready to depart at any time in order to avoid being beset by ice.

4.91 The sea area lying N of Avstriyskiy Proliv has not been fully examined and is more liable to have unfavorable ice conditions than the areas adjacent to the S and W parts of the archipelago. It is reported that only vessels of comparatively light draft have navigated in this region.

Ostrov Viner-Neyshtadt (80°47'N., 58°20'E.) lies 6.5 miles NNE of Ostrov Kheysa. This island is covered by a glacier except for several ice-free, dark-colored, and rocky cliffs which face the projecting capes.

Ostrov Grili lies 2.5 miles N of Ostrov Viner-Neyshtadt. The greater part of this island is covered with a glacier and its E extremity is formed by a glacial precipice. Ostrov Kena and

Ostrov Kun, with a cliffy islet located close S of it, lie E and NNE, respectively, of the N end of Ostrov Grili and are separated from it by a strait, 1 to 2 miles wide. The NE extremity of Ostrov Kena is reported to be 670m high and ice-free. Ostrov Stolichka lies 3 miles N of Ostrov Kun. This small island is ice-free and a rocky islet lies 0.5 mile SW of it.

Ostrov Bekkera (81°13'N., 59°13'E.) lies 8 miles NE of the NE extremity of Ostrov Kena. This island is narrow and 4.5 miles long. Its NW part is covered with ice, but the SE part is ice-free.

Ostrov Raynera lies 5 miles NNW of Ostrov Bekkera and is separated from the E end of Ostrov Karla-Aleksandra by a strait, 1.5 miles wide. This island has a diameter of 7 miles and is almost circular. It is covered with a solid icecap which rises to a height of 323m. The only noticeable point along the coast of the island projects slightly from its NE part.

A shoal patch, with a depth of 3.9m, lies about 0.5 mile S of the S side of Ostrov Raynera. Another shoal patch, with a least depth of 5.2m, lies about 2.3 miles off the SW coast of the island. An islet lies close offshore, 1 mile SE of the NE part of the island. Several low islets, positions doubtful, lie within 2 miles of the NE extremity of the island and a reef is reported to extend about 3 miles NW from them.

Several other islets lie in the area located between Ostrov Raynera and Ostrov Karla-Aleksandra. This area has been only partially explored and numerous other dangers may exist in this vicinity.

Avstriyskiy Proliv (Austria Sound) (80°30'N., 59°00'E.), a strait, separates the central and E groups of Zemlya Frantsa-Iosifa. Its S entrance lies between Ostrov Gallya and Zemlya Vil'cheka and its N entrance lies between Ostrov Grili and the W extremity of Ostrov Lya-Ronsier. This strait, which is 40 miles long, has a least width of 5 miles lying at its S entrance. The tidal currents in the strait are reported to be fairly strong and the few scattered soundings indicate depths of 22 to 280m.

The W side of the strait is bordered by Ostrov Gallya, Ostrov Kheysa, Ostrov Viner-Neyshtadt, and Ostrov Grili. The E side is bordered by Zemly Vil'cheka (80°40'N., 60°00'E.) and Ostrov Lya-Ronsier (81°00'N., 60°15'E.).

A group, consisting of two islands and two islets, lies near the middle of the strait, E of Ostrov Kheysa.

4.92 The E group of islands of Zemlya Frantsa-Iosifa comprises of Zemlya Vil'cheka, Ostrov Greem-Bell, Ostrov Lya-Ronsier, Ostrov Yeva-Liv, and several smaller islands.

Because of the ice conditions, this area has been explored less than most other parts of the archipelago. The channels lying between the islands of the group and the greater part of the surrounding sea areas have not been examined.

Zemlya Vil'cheka (80°40'N., 60°00'E.), 39 miles long and 21 miles wide in its S part, has a surface consisting of an elevated plateau covered with an icecap. The coasts of this island are formed by glacial precipices except along most of the projecting capes and points, which are faced with exposed and dark-colored rock. Three conspicuous conical mountains rise from the plateau in the SW part of the island and five mountains stand in the NE part. Between the SW extremity and the NW extremity of the island, the coast is only slightly indented. A bight, entered 7 miles NNW of the SW extremity, is sheltered only from E winds and has not been examined. Ice-free islets lie 2 miles N and 2 miles NE of the NW extremity of the island. From this extremity, the N coast of the island trends in a general E direction for 15 miles and then NNE for 6 miles to the N extremity. The E extremity is located 13.5 miles SSE of the N extremity and is the only cape on the island which is completely ice-covered with no exposed rocks. An extensive bay indents the coast to the S of this cape and several small, ice-free islands lie off the S coast of the island.

Ostrov Lya-Ronsier lies N of Zemlya Vil'cheka and is separated from it by a strait with a least width of 3.5 miles. This island is oval-shaped, 15 miles long, 11 miles wide, and completely covered by ice.

Ostrov Greem-Bell lies NE of Zemlya Vil'cheka and is separated from it by a strait with a least width of 5 miles. This island is 41 miles long, 26 miles wide, and has a surface formed by a plateau which is covered by an icecap. The depths lying within about 5 miles of the island are extremely irregular. It is reported that a scientific settlement is situated on this island.

Ostrov Gofmana (81°16'N., 60°10'E.) lies 11 miles NNW of Ostrov Lya Ronsier. This island is 6 miles long, 3.5 miles wide, and is covered with an icecap.

Ostrov Yeva-Liv (81°40'N., 63°10'E.), the largest of a group of three islands, lies 15 miles NNW of the N extremity of Ostrov Greem-Bell and was formerly charted as two separate islands. The two smaller islands of the group lie 4 miles SSW and 8 miles SSW of the NW extremity of this island. All three of these islands are covered by ice.